

JOURNAL OF COMILLA MEDICAL COLLEGE TEACHERS ASSOCIATION

ISSN 1727-1827

Volume 24 Number 1 January 2020

EDITORIAL

COVID 19 – A Blazing Storm

M Rezaul Karim

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Provat Kumar Bala, Shamima Akter Rekha, Shantana Rani Paul



The Official Organ of Comilla Medical College
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Journal of Comilla Medical College Teachers Association

Vol. 24, No. 01, January 2020

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Published by

Dr. Mohammad Izazul Hoque

On behalf of Comilla Medical College Teachers Association, Comilla, Bangladesh.

Printed at

Colour Pluss Computer and Offset Press

Puraton Chowdhurypara Road, Mugaltoly, Cumilla.

Tel: 081-77325, Mobile: 01819-607026

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The Journal of Comilla Medical Teachers Association (JCoMCTA) - a bi-annual journal (January and July each year) covering all the fields of medical science - is the official organ of the Teachers Association, Comilla Medical College Branch.

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22. **Scientific or technical report:**
Issued by funding/sponsoring agency:
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Issued by performing agency:
Field MJ, Tranquada RE, Feasley JC, editors. Health services research: work force and educational issues. Washington: National Academy Press; 1995. Contract No.: AHCPR282942008. Sponsored by the Agency for Health Care Policy and Research.
23. **Dissertation :**
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24. **Patent:**
Larsen CE, Trip R, Johnson CR, inventors; Novoste Corporation, assignee. Methods for procedures related to the electrophysiology of the heart. US patent 5,529,067. 1995 Jun 25.
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26. In press:

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27. Journal article in electronic format:

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COVID 19 – A Blazing Storm

Covid-19 is a rapidly changing theme, what is true today becomes false tomorrow.

We lived through the swine flu (2009 H1N1) pandemic which caused a Global death toll around 300000. Then we lived through Bird Flu (50% mortality), Ebola (70% mortality), MERS (40% mortality), Zika (airborne and causes birth defect) scare and cattle call. So when COVID-19 started ravaging Wuhan, China and Lombardy, Italy - me and many of my frontline, more informed physician colleague were like the mythical shepherd boys. We Have been dismissive! Dismissive because, with R_0 of 2.5-2.9, SARS-COV-2 was less contagious than SARS-1 of 2002 and definitely much less fatal than SARS-1, MERS, Bird Flu, Ebola etc. We knew that SARS-1, MERS, Avian influenza blazed for a few months in a few localities then stopped abruptly. R_0 became <1 , the epidemic died down. And SARS-COV-2 was a petty corona virus! It was a mere corona virus!! It was not the feared shifted- drifted influenza virus causing Flu pandemic we have been fearing half of the last century. Despite SARS -1 and MERS experience - we didn't give this bat corona virus due respects it deserved. It was not the feared white walker, it was not the novel influenza pandemic we always have been fearful about... But this novel corona virus SARS-COV-2 turned out to be the cause of first corona virus pandemic, to be more precise, the first non-influenza pandemic in history of mankind. So what went wrong with this Novel corona virus? Biologically less contagious and less fatal than SARS-1, instead of behaving like SARS-1 or MERS, why this novel corona virus is blazing like a catastrophic forest fire? The answer is in one protein. Exonuclease!

We are still inside the deep fog of war, at the center of a bloody- muddy battle field, we are wielding swords blindly! We don't have the clarity of a bird eye view or the luxury of a time lapse retrospect! Hazy view through early data says the following about this new enemy - this virus-

1. It is a bat virus, and thorough perpetual mixing and mutation inside the bat reservoir, this bat virus mutated and developed as a new virus sometimes between 1948 and 1972. Chinese horseshoe bats are carrying this virus for the last several decades!
2. Like tornado chasers - there are a group of scientists knows as virus chasers who are skimming wild bat habitants in search of viruses that they call pre-pandemic viruses. They are isolating bat viruses

which in the future has the potential to transmit to human and cause a new pandemic. They are pre-preparing for the next pandemic by sequencing them and trying to see vaccine potential. This new SARS-COV-2 was not in that pre-pandemic bat virus database. In fact this virus was never known to us despite it was circulating inside horseshoe bats for the last several decades. It says that our limited search efforts with lackluster funding was not enough to capture many bat viruses.

3. This horseshoe Chinese cave bats are not fruit bats- they have teeth and may infect human / other animals by any close contact.
4. Somehow humans got this SARS-COV-2 bat virus and started getting sick. Did this jump (virus changing host from bat to human) happen last fall? Did similar COVID-19 disease clusters happen before 2019 but we didn't notice? Very possible.
5. Remember AIDS. We always thought that HIV virus came to Human from Chimpanzee in 1983. But we now know that the jump probably happened in 1929! Since 1929, there have been undetected local epidemics AIDS.
6. So SARS-COV-2 virus found this new host in human species which is abundant in planet earth.
7. This virus, in this new host, has only one job in life-propagate!
8. Remember the evolutionary theory of selection. This virus came this far- and so far winning against the most powerful species ever lived in this planet, Homo sapiens - this virus is the fittest. Genetically and biochemically, this virus is the chosen one, the selected one to survive and propagate. Millions / billions of other weaker viral species got defeated / lost out - this one didn't! This is pure simple theory of selection!

Why this virus has been selected to come this far and win over a complex new host? There are many factors and explanations! But one factor is that it has a protein called Exonuclease in its arsenal!

Exonuclease is a protein this virus generates for a job called genetic proof-reading! Viruses are constantly replicating into new viruses. That's how they propagate. Usually viral spreads die down after an initially blaze because the progeny keeps getting weaker and weaker due to constant mutations. Usually viruses don't have a

But this virus has a powerful quality control officer. This Exonuclease protein is ensuring that every single progeny this virus is producing is a healthy progeny. It's not allowing heavily mutated viruses which usually terminated the chain of transmission. And because of this Exonuclease, unlike SARS-1, MERS, this virus is not suddenly disappearing from the horizon; rather with Alexander the Great vigor, this virus is marching - conquering country after country, sacking city after city!

Clinical manifestation of this disease is fever, malaise, undue tiredness, body pain, dry cough, dyspnoea, septicaemia. But it can cause diarrhoea, jaundice, skin eruption, cardiovascular problems, renal problems and what not!

The optimal approach to treatment of COVID-19 is uncertain. There are no therapies that have clearly proven effective; for most potential therapies, evidence for their use comes primarily from observational case series and anecdotal use based on in vitro or extrapolated indirect evidence. It is important to acknowledge that there are no well-controlled data supporting the use of any of these agents, and their efficacy and safety for COVID-19 are largely unknown. Inhaled medications should be administered by metered dose inhaler, whenever possible, rather than through a nebulizer, to avoid the risk of aerosolization of SARS-CoV-2 through nebulization. Patients receiving angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs) should continue treatment with these agents if there is no other reason for discontinuation (eg, hypotension, acute kidney injury). Same thing with statins.

Remdesivir — Remdesivir is a novel nucleotide analogue that has activity against SARS-CoV-2 in vitro [43] and related corona viruses (including SARS and MERS-CoV) both in vitro and in animal studies. Several randomized trials are underway to evaluate the efficacy of remdesivir for moderate or severe COVID-19.

Convalescent plasma - In the United States, the Food and Drug Administration (FDA) is accepting investigational new drug applications for use of convalescent plasma for patients with severe or life-threatening COVID-19. There are insufficient data thus far to know whether hydroxychloroquine or chloroquine has a role in treatment of COVID-19. For this reason, we strongly recommend that patients should be referred to a clinical trial whenever possible.

IL-6 pathway inhibitors — Tocilizumab is an interleukin (IL)-6 receptor inhibitor used for rheumatic diseases and cytokine release syndrome. Elevated IL-6 levels have been described in patients with severe COVID-19.

Favipiravir – Favipiravir is an RNA polymerase inhibitor that is available in some Asian countries for treatment of influenza, and it is being evaluated in clinical trials for treatment of COVID-19 in the United States.

Interferon beta – There are no direct data evaluating the effect of interferon beta on SARS-CoV-2. However, interferon beta effectively reduces MERS-CoV in vitro and has resulted in good outcomes in an animal model of MERS-CoV infection.

Azithromycin and hydroxychloroquine – Our national guideline suggest use azithromycin in combination with hydroxychloroquine for treating COVID-19. Although as any study suggested the use of azithromycin combination with hydroxychloroquine was associated with more adverse out come.

Results from a randomized trial do not demonstrate a clear benefit of lopinavir-ritonavir.

We favor pharmacologic prophylaxis of venous thromboembolism for all hospitalized patients with COVID-19, consistent with recommendations from the International Society of Thrombosis and Haemostasis. We typically use low-molecular-weight heparin, unless there are contraindications (eg, active bleeding, severe thrombocytopenia).

Number of cases and death from COVID-19 are increasing day by day throughout the world including Bangladesh.

We the healthcare providers need to run a long way before we stop.

Prof M. Rezaul Karim

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Ludwig's Angina- Dental Caries is the Main Etiological Factor

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Abstract:

Background: Ludwig's angina is a rapidly progressive, potentially fulminant cellulitis involving the sub-lingual, submental and sub-mandibular spaces. It typically originates from an infected or recently extracted tooth, most commonly the lower second and third molars. Besides, poor nutritional status, lack of proper medical supports are still major predisposing factors in developing Ludwig's angina in countries like Bangladesh. **Aim:** The aim of the study is to observe etiological factors, clinical presentations, causative agents and treatment response. **Method:** We carried out a cross sectional study among 65 patients with Ludwig's angina admitted in the department of ENT and Head-neck surgery in Comilla Medical College Hospital from January 2017 to June 2019. **Results:** In this study we found that males are predominantly affected than

females (59 males and 6 females, ratio-9.8:1) with odontogenic infection (57, 84%) as source. We found history of recent tooth extraction in 8 cases (12%) & organism was isolated from pus culture, Streptococcus in 10 cases (19.2%) out of 26 cases. In this study we found tooth cleaning habit of patients by tooth brush 16 cases (24.6.2%). We elicited underlying systemic disease mainly Diabetes Mellitus in 28 cases (43%). **Conclusion:** Our study suggests that bad oral hygiene is responsible for Ludwig's angina and thorough clinical evaluation and definitive care will considerably improve patient condition and reduce morbidity and mortality.

Key words: Submental, Submandibular, Odontogenic, Streptococcus.

(J Com Med Col Teachers Asso January 2020; 24(1): 09-11)

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Introduction:

Ludwig's angina is a rapidly progressive, potentially fulminant cellulitis involving the sub-lingual, sub-mental and sub-mandibular spaces. Ludwig's angina is a type of severe cellulitis involving the floor of the mouth. Early on the floor of the mouth is raised and there is difficulty swallowing saliva, which may run from the person's mouth. It was named after the German physician Wilhelm Friedrich Von Ludwig who first described the condition in 1836¹. Angina is derived from Latin word angere which means to strangle. This name refer to the choking effect of Ludwig's angina on its victims. Ludwig's angina is odontogenic in origin in up to 90% of cases², although oral lacerations, mandible fractures, sialoadenitis have also been implicated³. Ludwigs angina is sometimes associated with Diabetes Mellitus in 18% cases, AIDS in 9% cases³. Without treatment this disease frequently causes laryngeal oedema or septicemia with a mortality rate of 50%. The aggressive surgical intervention, appropriate antibiotic introduction and the improvement of dental care have determined a significant reduction of the mortality rate to less than 10%⁴. The external signs may include bilateral lower facial swelling around the mandible and upper neck. Signs inside the mouth may include elevation of the floor of mouth due to sublingual space involvement and posterior displacement of the tongue, creating the potential for a compromised airway⁵. Additional symptoms may include painful neck swelling, tooth pain, dysphagia, shortness of breath, fever, and general malaise⁵. Stridor, trismus and cyanosis may also be seen when an impending airway crisis is nearing⁵. As the condition worsens, the airway may be

compromised with hardening of the spaces on both sides of the tongue. This condition has a rapid onset over hours.

The majority of cases follow a dental infection. Other causes include a parapharyngeal abscess, mandibular fracture, cut or piercing inside the mouth, or submandibular salivary stones. It is a spreading infection of connective tissue through tissue spaces, normally with virulent and invasive organisms. It specifically involves the submandibular, submental, and sublingual spaces.

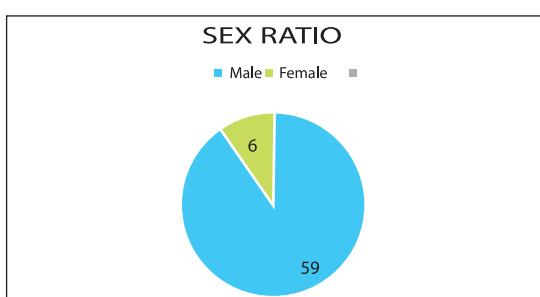
Prevention is by appropriate dental care including management of dental infections. Initial treatment is generally with broad-spectrum antibiotics and corticosteroids. In more advanced cases endotracheal intubation or tracheostomy may be required⁶. With the advent of antibiotics in 1940s, improved oral and dental hygiene, and more aggressive surgical approach, the rates and risk of death among those infected has significantly reduced. Surgical incision and drainage are the main methods in managing severe and complicated deep neck infections that fail to respond to medical management within 48 hours. It is indicated in cases of airway compromise, septicemia deteriorating condition, descending infection and diabetes mellitus⁷. Bilateral submandibular incisions should be carried out in addition to a midline submental incision. Access to the supramylohyoid spaces can be gained by blunt dissection through mylohyoid muscle from below⁷.

Methods:

The study was done on 65 patients treated in the department of ENT & Head-Neck surgery of Comilla Medical College Hospital from January 2017 to June 2019. It was a cross sectional study. All patients with Ludwig's angina admitted and treated in this study period were included. Out of 65 patients pus from abscess was sent for culture and sensitivity in 26 cases. In the rest of the patients pus was not studied. All documents were recorded in a prescribed data sheet. Age, sex, etiological factors and treatments given are recorded accordingly and results are analyzed in graphs and tables.

Results:

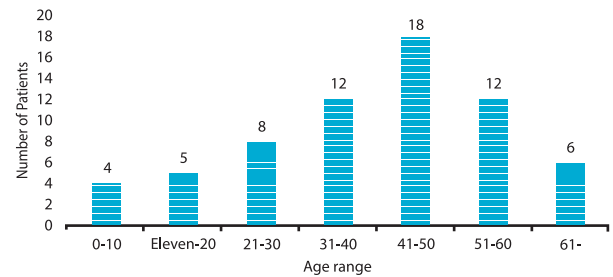
Figure-1 Sex distribution of patients



In this study we found that males are predominantly

affected than females (59 males and 6 females, ratio-9.83:1)

Figure-2 Age distribution of Patients



In this study, patients of 5th decade were mostly suffered from Ludwig's angina.

Table-I Association with risk factors

| Risk factors | Frequency | Percentage |
|----------------------------|------------|------------|
| Dental caries | 55 (n-65) | 84% |
| DM | 28 (n -65) | 43% |
| H/o tooth extraction | 8 (n-65) | 12% |
| Dermoid | 2 (n-65) | 3% |
| Non specific Lymphadenitis | 5 (n-65) | 7.6% |

55(84%) patients presented with dental problems followed by Diabetes mellitus (43%) and H/O tooth extraction (12%)

Table-II Tooth cleaning habits of the patients. (n-65)

| Materials | Frequency | Percentage |
|------------------------|-----------|------------|
| Meswak | 15 | 23% |
| Ash | 20 | 30% |
| Tooth paste with brush | 16 | 24.6% |
| Tooth powder | 14 | 21.5% |

If we consider tooth cleaning habit, we found that only 16 (24.6%) patients were used to clean their tooth by tooth brush and paste.

Table-III Organism isolated from the pus (n=26)

| Name of organism | Number of Patients | Percentage |
|------------------|--------------------|------------|
| Streptococcus | 10 | 19.2% |
| Klebsiella | 4 | 7.6% |
| Enterococci | 4 | 7.6% |
| Proteus | 4 | 7.6% |
| E. coli | 2 | 3.8% |
| Fusobacterium | 2 | 3.8% |

Among causative organism Streptococcus is found in 10 patients out of 26 patients..

Rest of the patients organism isolation was not done due to lack of facility.

Discussion:

Sixty five patients of Ludwig's angina were included in this study. Patients of all age, sex and social status were included in this study. The results of our study showed certain facts influences Ludwig's angina significantly.

This study is consistent with earlier reports showing male preponderance⁹. No age is immune from Ludwig's angina. Age range of the patient was between 3yrs-79yrs. Common age group suffered from this disease is fifth decade.

Ludwig's angina can arise from variable sources such as odontogenic infection or complicated cases of sialoadenitis. In our study we found dental caries as the most predominant factor which are similar with study by Andreoli et al².

Next to dental caries we found patient with Diabetes Mellitus and H/O tooth extraction as common sufferer of Ludwig's angina. Unhygienic teeth due to poor oral hygiene maintenance plays some role in Ludwig's angina. Unhygienic oral environment acts as a foci of infection in adjacent area causing Ludwig's angina. Honrado et al support this finding¹⁰.

Tooth cleaning habit is poor in our country. Out of 65 patients only 14 (21.5%) patients uses brush and paste. 15 patients uses meswak, 20 patients uses ash and 14 patients uses tooth powder.

Out of 65 patients we collect pus from 26 patients. By taking pus samples from a patient with Ludwig's angina, the microbiology was found to be commonly polymicrobial and anaerobic^{11,12}. Some of the commonly found microbes are viridance Streptococcus, Staphylococci, Peptostreptococci and Fusobacterium^{11,12}.

We got Streptococcus as the commonest organism in the pus. Beside this Klebsiella, Proteus and Enterococci were isolated also. We were able to collect pus from 26 patients. The isolates in the present study are not always consistent with findings in study by Bagheri et al¹³. Small sample size may explain this dissimilarity.

Conclusion:

Dental caries and unhygienic teeth are common influencing factors associated with Ludwig's angina which are preventable. Ludwig's angina can be life threatening. It can be cured with proper surgical treatment and appropriate perenteral antibiotics. In this study fatality rate of about 1.5%.

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Hypothyroidism Following Hemithyroidectomy: Study in Comilla Medical College

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Abstract:

Background: Hypothyroidism results from insufficient production and secretion of thyroid hormones. This may be due to disturbance within the thyroid gland itself (primary hypothyroidism) or within the hypothalamic - pituitary-thyroid axis (secondary hypothyroidism). The objective of this study is to determine the incidence, risk factors and management of hypothyroidism occurring after hemithyroidectomy for benign non-toxic thyroid disease.

Methods: We conducted a prospective cross sectional study of 100 euthyroid patients with benign non-toxic thyroid disease who had undergone hemithyroidectomy from January 2017 to December 2018 admitted in the department of otolaryngology and Head Neck Surgery, Cumilla Medical College Hospital. All patients were evaluated for age, sex, pre-operative and post-operative

TSH levels, histopathology and follow up. Time of diagnosis and therapeutic dose of thyroid hormone were determined for patients with hypothyroidism. **Results:** As per this study, the incidence of hypothyroidism following hemithyroidectomy is 22%. Among them 18 patients were female and 4 patients were male. In total 100 patients, 84 patients were female and 16 patients were male. Hemithyroidectomy in patients with Hashimoto's thyroiditis develops hypothyroidism with higher incidence. **Conclusion:** In this study, risk factors such as elevated preoperative TSH levels, degree of thyroiditis, age, and residual thyroid volume are associated with an increased risk of hypothyroidism after hemithyroidectomy.

Keywords: Hypothyroidism, Hemithyroidectomy, Euthyroid, Hashimoto's thyroiditis.

(J Com Med Col Teachers Asso January 2020; 24(1): 12-16)

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Introduction:

Insufficient production and secretion of thyroid hormones causes hypothyroidism. This might be due to disturbance within the thyroid gland itself (primary hypothyroidism) or within the hypothalamic-pituitary-thyroid axis (secondary hypothyroidism).¹ The operation of hemithyroidectomy (total thyroid lobectomy and isthmusectomy with preservation of the contralateral lobe) indicates for patients with a unilateral thyroid mass that is causing compressive symptoms, cosmetic concern or to exclude thyroid malignancies.² Hypothyroidism may occur after lobectomy if the remaining thyroid lobe does not produce sufficient thyroid hormone to maintain a euthyroid state. Many studies have evaluated thyroid function after hemithyroidectomy for benign thyroid disease. The reported incidence of hypothyroidism after hemithyroidectomy has been found to vary from 5.0% to 49%, with most studies reporting a range of 15-30%.²⁻⁴ This disparity in results is partially due to differences in their definition of hypothyroidism and to differences in length of follow-up. Patients may have subclinical and clinical hypothyroidism. Serum TSH levels should be routinely checked after hemithyroidectomy to detect hypothyroidism. Most of the patients who are found to have an elevated TSH level after hemithyroidectomy will require thyroid hormone replacement therapy. However, some patients may become euthyroid without intervention.⁵ In the past, it was common practice for physicians to place most post-hemithyroidectomy patients on prophylactic

thyroid suppression therapy with low-dose levothyroxine. The rationale for the strategy was based on the assumption that the addition of low dose levothyroxine would prevent recurrence of disease in the remaining thyroid tissue by inhibiting endogenous secretion of thyroid-stimulating hormone (TSH). A consequence of this practice was that the administration of levothyroxine prevented physicians from recognizing those patients who would have otherwise become hypothyroid after hemithyroidectomy. In more recent years, physicians usually stopped administering thyroid suppression therapy during the immediate post-operative period. Instead, the new strategy was to follow these patients clinically for signs of recurrence.⁶ Hypothyroidism as a sequel of hemithyroidectomy may remain unnoticed most of the time.⁷ Mild hypothyroidism after hemithyroidectomy may subside after a few months as the remnants of thyroid tissue is stimulated by the rising TSH. Furthermore, post-operative hypothyroidism in patients who had chronic hypothyroidism and do not receive hormone replacement therapy early after operation can be severe. It's still unclear the incidence and risk factors for development of hypothyroidism after hemithyroidectomy.⁸ Shimono T et al conducted a study to identify certain risk factors that may place a patient at a higher risk for developing hypothyroidism after hemithyroidectomy. These potential risk factors include age, sex, tissue pathology characteristics, the size of thyroid remnant, a history of neck irradiation, and co existing thyroid autoimmune disease.⁹ Post-operative thyroid replacement therapy is initiated usually levothyroxine at 1.8 µgm/kg/day. The dose of levothyroxine is adjusted on the basis of the result of serum thyroid stimulating hormone (TSH) and thyroxine (T4) levels performed 4 to 6 weeks after the thyroid replacement therapy.¹⁰

Objectives:

General objective: To find out the incidence of hypothyroidism after hemithyroidectomy in Cumilla Medical College.

Specific objective: To identify risk factors of hypothyroidism in Cumilla medical College.

Methods:

We carried out a prospective cross sectional study among 100 euthyroid patients with benign non-toxic thyroid disease who had undergone hemithyroidectomy from January 2017 to December 2018 admitted in the department of otolaryngology and Head Neck Surgery, Cumilla Medical College Hospital. Subject selected by adopting purposive sampling techniques with maintaining some inclusion criteria. Before starting the study, we got approval from the Department of Otolaryngology and Head Neck Surgery, Cumilla Medical College Hospital. We also took

written informed consent from the study participants. We performed statistical software SPSS for analyzing data. Chi-square test used for getting comparison and p value.

Inclusion criteria

All patients how underwent hemithyroidectomy in Cumilla Medical College Hospital during the study period aged between 11 to 60 years.

Exclusion criteria

Age range not in 11-60 years, critically ill patients, if patients were not interested to include the study.

Results:

From 2017 January to 2018 December total 100 patients underwent hemithyroidectomy in Cumilla Medical College Hospital. The main indication for surgery was exclusion of malignancy, cosmetic consideration and relief of compressive symptoms. Of them 84 (84%) were female, 16 (16%) were male and female (Figure 1) male ratio was 5.25:1. The age of the patient ranged from 18 years to 60 years (mean age 36 years) with a maximum age of patient in 3rd and 4th decade. Hypothyroidism following hemithyroidectomy developed 22% and remaining 78% were euthyroid. Among hypothyroid patient 18 (81.81%) were female and 4 (18.18%) were male. Maximum incidence of hypothyroidism following hemithyroidectomy in 3rd and 4th decade. Compared with those who were euthyroid, there were no significance difference in age, family history of goitre, side of surgery, but post-operative TSH level between two means were significant ($p < .01$) The pathological diagnosis after surgery were nodular goitre 10 (45.45%), multinodular goitre 6 (27.27%), Hashimotothyroiditis 6 (27.27%) and follicular adenoma 2 (9.09%). The potential risk factors for hypothyroidism in this study were female (82%) and less than 45 years, preoperative mean TSH level 3.14 µIU/l, multinodular goitre (27%), Hashimoto thyroiditis (18%). In our study the follow-up schedule was at 6 weeks, 3 months and 6 months after surgery, then yearly thereafter. Among hypothyroid patients 10 (45.45%) were subclinical and 12 (54.54%) were clinical and 18 patients required postoperative levothyroxine therapy.

Figure-1: Sex Ratio (n=100)

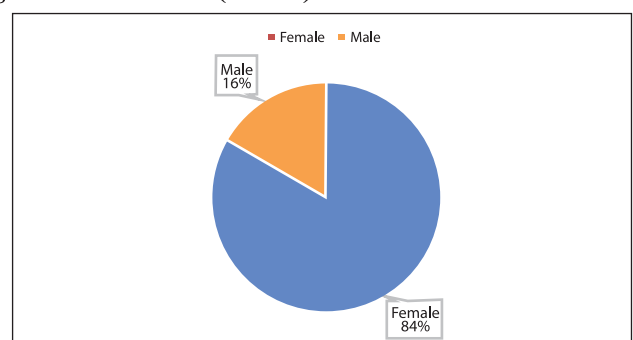


Figure 1 shows 84% female among study population

Figure-2: Age incidence among hypothyroid patients (n=22)

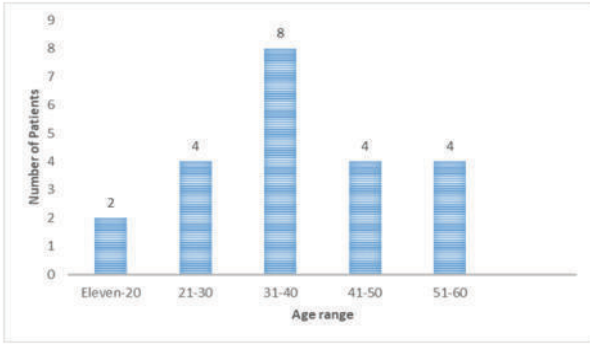


Figure 2 shows 8 patients in 31-40 years' age range.

Figure-3: Incidence of hypothyroidism following Hemithyroidectomy (n=100)

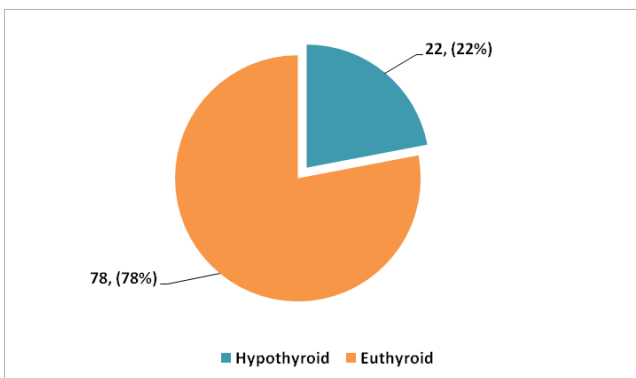


Figure 3 shows the incidence of hypothyroidism after hemithyroidectomy.

Figure-4: Male female ratio among hypothyroidism

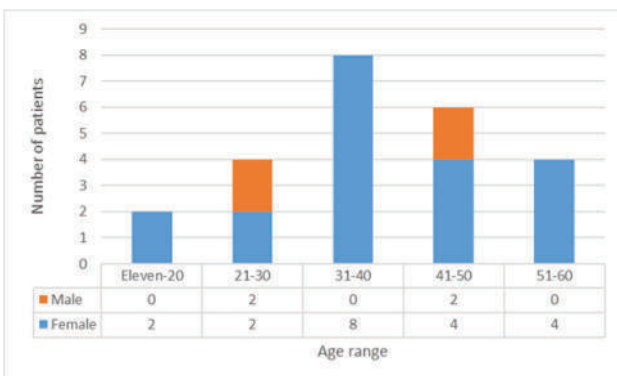


Figure shows total 4 male patients in 21-30 and 41-50 age range.

Table-1: Histopathological findings (n=100)

| Histopathology | Post-operative euthyroid (n=78) | Post-operative hypothyroid (n=22) |
|-----------------------|---------------------------------|-----------------------------------|
| Nodular goitre | 46 (58.97%) | 10 (45.45%) |
| Follicular adenoma | 6 (7.69%) | 2 (9.09%) |
| Multinodular goitre | 24 (30.76%) | 6 (27.27%) |
| Hashimoto thyroiditis | 2 (2.56%) | 4(18.18%) |

Table 1 hypothyroidism is more common in Hashimoto thyroiditis

Table-2: Preoperative and Post-operative TSH level in Hypothyroidism patients (n=22)

| Serial no | Sex | Age (Y) | Preoperative TSH (mIU/L) | Post-operative TSH (mIU/L) |
|-----------|--------|---------|--------------------------|----------------------------|
| 1 | Female | 34 | 2.66 | 13.44 |
| 2 | Female | 42 | 1.97 | 18.69 |
| 3 | Female | 19 | 1.47 | 5.22 |
| 4 | Female | 55 | 2.87 | 11.14 |
| 5 | Female | 32 | 3.41 | 7.21 |
| 6 | Female | 23 | 3.90 | 14.17 |
| 7 | Female | 35 | 2.91 | 5.52 |
| 8 | Female | 31 | 3.31 | 21.5 |
| 9 | Female | 60 | 4.09 | 7.89 |
| 10 | Female | 20 | 0.97 | 7.06 |
| 11 | Female | 54 | 2.64 | 18.99 |
| 12 | Female | 33 | 2.09 | 10.32 |
| 13 | Female | 43 | 1.75 | 12.31 |
| 14 | Female | 33 | 3.32 | 19.12 |
| 15 | Female | 22 | 2.49 | 8.32 |
| 16 | Female | 36 | 1.87 | 6.42 |
| 17 | Female | 30 | 0.76 | 14.11 |
| 18 | Female | 59 | 3.89 | 5.78 |
| 19 | Male | 23 | 3.55 | 8.44 |
| 20 | Male | 45 | 4.30 | 6.89 |
| 21 | Male | 32 | 2.54 | 13.78 |
| 22 | Male | 36 | 1.52 | 12.54 |

Table 2 shows preoperative and post-operative hormone level in all hypothyroid patients

Figure-5: Nature of hypothyroidism (n=22)

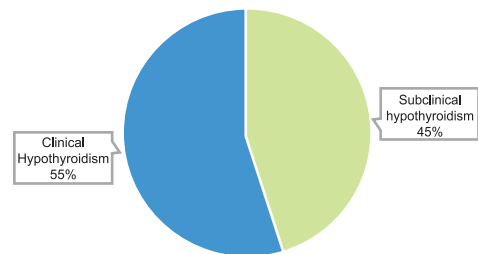


Figure 5 shows 45% patients were subclinical hypothyroidism

Discussion:

The operation of hemithyroidectomy is a relatively commonly performed procedure. It is indicated for patients with a unilateral mass to exclude carcinoma, to relieve compressive symptoms or for cosmetic considerations.

Hypothyroidism, both clinical and subclinical, is a potential consequence of hemithyroidectomy and is associated with a number of adverse clinical outcomes. The routine use of thyroxine for all patients after surgery is no longer adopted because of questions over its efficacy and possible side effects. Therefore, it is important to identify those patients who are at risk of developing hypothyroidism in the early postoperative period so that they can be more vigilantly monitored using thyroid function tests. There is no universally accepted definition of normal thyroid function, based upon thyroid function assays. For this study, we have adopted a TSH level of 4.5 μ IU/l as the upper limit of normal as like other study.^{11,12} Our results demonstrate an incidence of hypothyroidism following hemithyroidectomy of 22% (clinical hypothyroidism was seen in 55% and subclinical hypothyroidism in 45%). All patients are followed up after 6 weeks of surgery and routinely measure Serum TSH level.

Risk factors for hypothyroidism following hemithyroidectomy include the female (82%), less than 45 years, preoperative mean TSH level 3.14 μ IU/l, multinodular goitre (27%), Hashimoto thyroiditis (18%). Thyroid function after hemi-thyroidectomy is clearly dependent upon the functional capacity of the thyroid remnant.^{13,14} It would be intuitive to assume that patients with ongoing thyroid disease would be at increased risk of developing subsequent hypothyroidism.¹⁵ Our study demonstrates that a relatively raised (greater than the mean TSH but still within normal limits) preoperative TSH is also associated with an increased risk of developing hypothyroidism. A raised TSH can be interpreted as a reflection of deteriorating thyroid reserve and subsequently an increased risk of developing post-operative hypothyroidism.¹⁶ Our results also support the hypothesis that lymphocytic Infiltration/ Hashimoto thyroiditis is a significant risk factor for the development of hypothyroidism.^{17,18} The presence of lymphocytes in thyroid tissue would indicate active or ongoing disease and therefore the possibility of a progressive decline in thyroid function.¹⁹ Multi-nodular goitre has been associated with an increased incidence of post-operative hypothyroidism.¹⁹ This will also be observed in our study. Multi-nodular goitre is suggestive of an active disease process, it would have to be assumed that it may alter the function of remaining thyroid tissue.¹⁵ In our country maximum incidence of thyroid disease occurs in female.

In our study majority of patients are also female and below 45 years of age. Several studies have evaluated thyroid function after hemithyroidectomy for benign thyroid disease. The reported incidence of hypothyroidism after hemithyroidectomy has been found to vary from 5.0% to 49%, with most studies reporting a range of 15-30%.²⁻⁴ Our figures are approximately midway and agree favorably with other studies. This disparity in results is partially due to differences in their definition of hypothyroidism and to

differences in length of follow-up. Hypothyroidism, both clinical and subclinical, is a potential consequence of hemithyroidectomy and has been associated with a number of adverse clinical outcomes. However, hypothyroidism after hemithyroidectomy is an under recognized complication, with patients most often monitored only for a short time postoperatively.²⁰

There is no widely accepted guideline for the monitoring of thyroid function after hemithyroidectomy, leaving hypothyroidism as the most common resulting complication. Follow-up guidelines vary widely and generally consist of a single postoperative measurement of TSH. Some patients may not be examined at all until the development of overt hypothyroidism. If thyroid dysfunction is detected, the decision to start thyroid hormone replacement therapy is usually based on the preference of the treating physician, patient symptoms, and the degree and duration of TSH elevation, rather than on evidence obtained from clinical trials. Therefore, it is important to identify those patients who are at risk of developing hypothyroidism soon after surgery so that they can be more attentively monitored using thyroid function tests.¹⁵ Several recommendation protocols for follow-up after hemithyroidectomy are given below- Postoperative TSH measurement 8 to 12 weeks after surgery, followed by the measurement of TSH levels at 6 months and 12 months after surgery. If the TSH level is normal at 12 months, biannual to annual determination of TSH levels was encouraged unless symptoms of hypothyroidism manifest.²¹

Postoperative TSH level should be checked 4 weeks after surgery and again 3 months. At 3 months after operation, the decision regarding prescription of levothyroxine to patients with subclinical hypothyroidism (more than 10 μ IU/ml). After 3 months after operation, the measurement of TSH levels was recommended at 6 and 12 months after surgery. If the TSH level is normal at 12 months, biannual to annual determination of TSH levels could be checked unless symptoms of hypothyroidism manifest.²⁰ To obtain a postoperative TSH measurement for all patients at 6 weeks after surgery, followed by the measurement of TSH levels at 6 and 12 months after surgery was advised. TSH level at 3 months was no longer recommended because most patients displayed marked increase in their TSH level immediately after surgery, that subsequently normalized over time.²² Our guideline was measurement of serum TSH level 6 weeks after surgery and again after 3 months. At 3 months after operation, the decision regarding prescription of levothyroxine to patients with subclinical hypothyroidism (more than 10 μ IU/ml). Then measurement of TSH levels was recommended at 6 and 12 months after surgery. If the TSH level is normal at 12 months, biannual to annual determination of TSH levels could be checked unless symptoms of hypothyroidism manifest.

Limitations of the study:

This study needs longer follow up periods to confirm this, but follow up periods of our study were only 6 months. In our study all patients were not completed the follow up with their surgeons. All patients were not operated by single surgeon. Weight of excised gland might reflect the volume of the contra lateral or opposite lobe that was reported to be associated with hypothyroidism. Preoperative measurement of thyroid auto-antibodies which were further variable to predict post-operative hypothyroidism were not performed in our study. In our study all bio-chemical values were not performed in single laboratory which reflected different reference values.

Conclusion:

In this study 15-30% of patients who undergo hemithyroidectomy have this complication, and they need thyroid hormone replacement therapy. Risk factors such as elevated preoperative TSH levels, elevated concentrations of thyroid autoimmune antibodies, degree of thyroiditis, age, and residual thyroid volume are associated with an increased risk of hypothyroidism after hemithyroidectomy.

Recommendation:

Patients at increased risk for postoperative hypothyroidism should be made aware of their risk factors and undergo more intensive follow-up. Need more research with large sample size to address this issue in Bangladesh as well as in the globe.

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Aetiology of Hepatic Space Occupying Lesion- A Study in Tertiary Level Hospital

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Abstract:

Background: Liver is a vital organ with diverse functions as it can be affected by a variety of metabolic, infectious, inflammatory, primary and metastatic neoplastic diseases. Some are diffuse and some are focal lesions. With advance of medical science especially hepatobiliary surgery it is important to know cytopathological types of lesions. Fine needle aspiration cytology (FNAC) is low cost, rapid and potentially accurate diagnostic procedure can be used for diagnosis of hepatic space occupying lesions (SOL). This study was done to find out the causes of SOL in the liver.

Methods: This cross sectional observational study done in the Department of Hepatology, Comilla Medical College during a period between January, 2017 to December, 2018. A total of 53 (fifty three) patients of hepatic SOL were enrolled in this study. Patients aged 18 years or above with solid or cystic SOL in liver diagnosed by imaging were included in this study. Under ultrasonography guidance FNAC were done in case of solid SOL and in case of cystic

lesions aspiration done for cytological study. **Results:** The highest percentage (34%) of SOL seen in 51-60 age group. Among the subjects 62% were male and 38% were female. Regarding aetiology of SOL, 83 % were malignant and 17% were benign. Metastatic adenocarcinoma was the commonest cause of liver SOL found in our study (38%). Hepatocellular carcinoma (HCC) was the second most common cause of liver SOL (36%), followed by liver abscess, cyst, haemangioma (17%). Squamous cell carcinoma was found in (5%) and small cell carcinoma in (4%) of patient. Causes of HCC were- HBV infection 47%, HCV infection 16%, unknown 37%. **Conclusion:** This study shows most of hepatic SOL were malignant. Among them metastatic adenocarcinoma was the predominant cause followed by HCC. HBV infection is the predominant cause of HCC.

Keyword: SOL-Space occupying lesion, FNAC –Fine needle aspiration cytology.

(J Com Med Col Teachers Asso January 2020; 24(1): 17-19)

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Introduction:

The liver is the largest organ in the abdomen. It is a vital organ with diverse functions and can be affected by a variety of metabolic, infectious, inflammatory and neoplastic diseases. It is a potential site for blood borne metastatic malignancies as the portal area drainage flows to the liver and is also a common site for different primary malignancies. Many non-neoplastic and neoplastic diseases can form diffuse or focal lesions in liver which are radiologically designated as space occupying lesions (SOLs). Hepatic SOLs include tumors, tumor-like lesions, abscesses, cysts, hemangioma¹.

With the advances in hepatic surgery and the increase in number of hepatic surgeries being performed, there is a significant increase in the identification of histological types of hepatic space occupying lesions². A diagnostic modality such as FNA (Fine needle aspiration), which offers accuracy without significant complications and which requires minimal intervention at low cost, warrants consideration early in the investigative sequence³. Ultrasoundguided FNAC is a rapid, accurate and safe diagnostic procedure that can be used in diagnosing various neoplastic and non-neoplastic diseases of the liver⁴. For proper management of SOL in the liver, it is essential to find out the aetiology.

Methods:

This cross sectional observational study done in the Department of Hepatology, Comilla Medical College Hospital from January, 2017 to December, 2018. A total of 53 (fifty three) patients of hepatic SOL attending the outpatient department and admitted patient were enrolled in this study. Patients aged 18 years or above with solid or cystic SOL in liver diagnosed by imaging were included in the study. Patients with large ascites and respiratory distress were excluded from this study. USG guided fine needle aspiration was done in solid SOL and in case of cystic lesions aspiration done for cytological study. Investigations done before procedure were platelet count and prothrombin time to know patient's bleeding tendencies. Aspirated materials sent to pathology department of Comilla Medical College by making film with slide or by test tube for cytopathological / cytological study.

Results:

Table-I: Age distribution of the study population (n=53)

| Age group (years) | Frequency | Percentage |
|-------------------|-----------|------------|
| 31-40 | 10 | (19%) |
| 41-50 | 13 | (25%) |
| 51-60 | 18 | (34%) |
| 61-70 | 07 | (13%) |
| 71-80 | 02 | (4%) |
| 81-90 | 03 | (5%) |
| Total number | 53 | (100%) |

Number of male patients were 33(62%) and female were 20(38%) (fig-1).

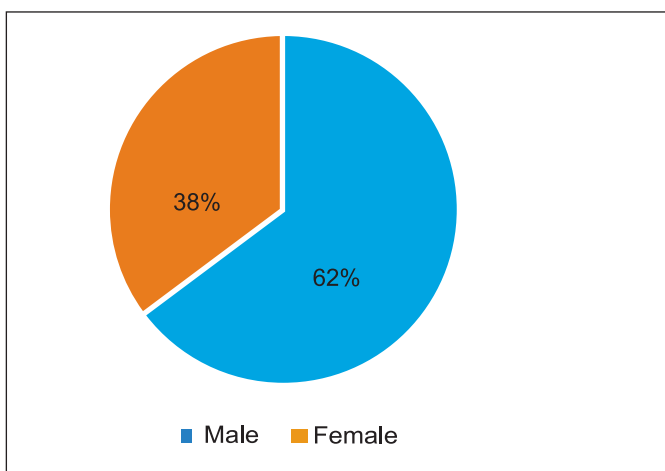


Fig-1: Sex distribution of the study population

Causes of SOL in the liver were malignancy in 44 (83%) patient and benign lesions were in 9 (17%) patient. Most of the malignant cases were metastatic lesions.

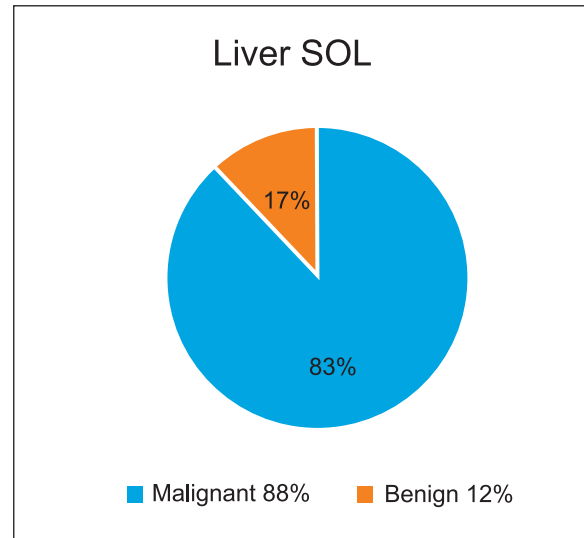


Fig-2: Aetiology of SOL in the liver

Table-II: Aetiology of SOL in the liver (n=53).

| Types of disease | | Number of patient | Percentage |
|------------------|-------------------------|-------------------|------------|
| Benign | Abscess/cyst | 06 | 11 |
| | Hemangioma | 03 | 6 |
| Malignant | Primary (HCC) | 19 | 36 |
| | Secondary | | |
| | Adenocarcinoma | 20 | 38 |
| | Squamous cell carcinoma | 03 | 5 |
| | Small cell carcinoma | 02 | 4 |

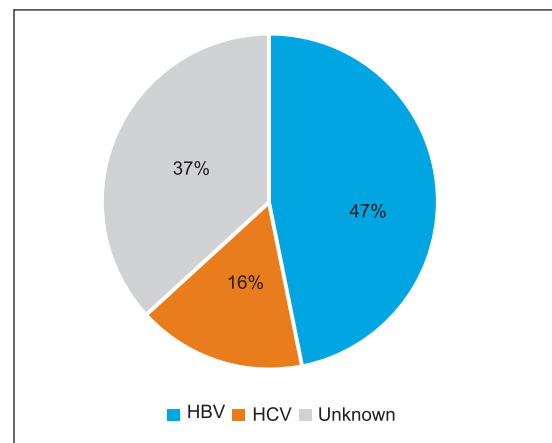


Fig-3: Etiology of HCC

Discussion:

In this study maximum number of liver SOL was found 51-60 yrs age group (37%). This finding is consistent with a study^{1,2} where 28% and 32 % patients were in 51-60 years of age group respectively .

In our study males are more affected than females. Among 53 patients 33 (64%) patients were males and 20 (36%) patients were females. Similar result found in a study¹ where 70% males and 30% females are affected. Another study⁴ also shows male predominance (61% vs 39 %).

Malignancy was the predominant cause of SOL in liver (83%) in our study. There are several studies^{1,3,4,5,7,8} where malignant hepatic SOLs were predominant. The percentage of malignant cases were 90 %, 85%, 94% , 90% ,81% and 93% respectively. In this study benign cases of hepatic SOL was 17% which is slightly higher than other studies^{3,4,5,8} but consistent with a study⁷(19%). The causes of benign SOLs were liver abscess (8%), cyst (3%) and haemangioma (6%).

Among the malignant SOLs in liver metastatic causes were (57%). There are several studies^{2,5,8} where metastatic malignancy were predominant cause (56 %,75%,96% respectively). Among the metastatic causes majority were adenocarcinoma (38%). Other causes of metastatic malignancy were squamous cell carcinoma(5%) and small cell carcinoma (4%).

In our study primary liver malignancy (HCC) were 36% which is higher than other studies^{9,11} where HCC were 9% and 10% respectively.

Regarding of etiology of HCC HBV infection were (47%), HCV infection 16% and unknown causes were 47%. In our study predominant causes of HCC was HBV infection which is consistent with a study¹⁰ (71%) of our subcontinent but contrary to Latin American study¹¹ (10.8%). HCV infection was associated with 16 % of HCC in our study. There are studies^{10,11} where HCV infection were 15% and 30% respectively..

Rising HCC of unknown etiology (37%) in the West due to increase the prevalence of alcoholism, obesity and diabetes mellitus which are associated with the metabolic syndrome and nonalcoholic fatty liver disease (NASH)¹¹.

Conclusions:

Most of the causes of hepatic SOL are malignant. Among them majority cases are secondaries in liver. Metastatic adenocarcinoma is predominant causes of secondaries in liver. Common cause of HCC is HBV infection.

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Evaluation of Abnormal Uterine Bleeding- Study in a Tertiary Care Hospital

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Abstract:

Background: Bleeding from the uterine corpus that is abnormal in volume, duration, regularity or frequency is considered abnormal uterine bleeding (AUB). Magnitude of the problem is most common complaint in gynaecological practice and it affects 1/3 (3-30%) of women at some stage of their life it also hampers social, familial and religious life. Endometrial sampling could be effectively used as the first diagnostic step in AUB. We also tried to detect the incidence of various pathology in different age groups clinically and with the help of imaging studies. **Objective:** The main objective was to identify the uterine pathology presenting AUB in different age group women. **Method:** It was a prospective study which was carried out among 55 women with different age groups in obstetrics and gynaecology department of Comilla Medical College Hospital from October 2017 to August 2019 after taking their informed consent. All patients had done USG of lower abdomen. Dilatation and curettage, hysteroscopic guided endometrial curettage are the surgical

procedures done under general anesthesia for 43 patients. Removal of uterus by total abdominal hysterectomy done on 7 patients. Specimen sent in pathological laboratory for histopathological evaluation. All information's collected in a predesigned data collection sheet. Data were analyzed by standard statistical methods (SPSS). Result: Most common age group presenting with AUB was 31 to 40 years (43.64 %). The commonest pathology irrespective of age group was endometrial causes 78.18%. Other causes identified were adenomyosis 9% and leiomyoma 3.63%. Among 55 patients 29 were discharged with hormone, 19 were without hormone and 7 patients undergone surgery. **Conclusion:** AUB is common in reproductive age group but ill-defined entity which needed proper evaluation by clinically and histopathologically. So that appropriate management can be established early which can minimize the patients sufferings.

Key words: Abnormal uterine bleeding, Endometrium, Histopathology

(J Com Med Col Teachers Asso January 2020; 24(1): 20-24)

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Introduction:

Abnormal uterine bleeding (AUB) is a common gynaecological symptom.¹ It is the commonest presentation in gynae outpatient department. It is defined as any type of p/v bleeding in which duration, frequency or amount is excessive for an individual patient². AUB is the common reason for gynecological visit for perimenopausal bleeding and may account for more than 25% of all hysterectomies³. Different studies have shown that the prevalence of AUB varies in different populations with the overall prevalence fluctuating between 10%. and 30%.^{4,5}

A structured approach for establishing the cause using the FIGO-2011 PALM-COEIN classification System will facilitate accurate diagnosis and inform treatment options. The acronym PALM COEIN is now being widely used for categorizing the causes of AUB (Figure 1): polyp (AUB-P), adeno myosis (AUB-A), Leiomyoma (AUB-L), malignancy and hyperplasia (AUB- M), coagulopathy (AUB-C), ovulatory dysfunction (AUB-O), endometrial (AUB-E) and iatrogenic and not yet classified (AUB-N). The 'Palm' classification is structural and assessed visually (imaging and histopathological tests.), whereas the 'COEIN' Classification is non structural.⁶

| PALM | COEIN |
|----------------------------------|--------------------------|
| (Structural causes) | (Non-structural causes) |
| Polyp AUB-P | Coagulopathies AUB-C |
| Adenomyosis AUB-A | Ovulatory Dysfunction |
| Leiomyoma AUB-L | AUB-O |
| Malignancy and Hyperplasia AUB-M | Endometrial AUB-E |
| | Iatrogenic AUB-I |
| | Not yet classified AUB-N |

Figure-1: The FIGO - 2011 PALM-COEIN classification system.

The bleeding pattern is an important basis for identifying the etiology of AUB and plays a crucial role in diagnosing such diseases. Meanwhile, for any one or more causes associated with AUB, only the first diagnosis or the most likely diagnosis of AUB is included.⁷ The classification System, however, still lacks effective biomarkers for ‘AUB-E’⁸. Office hysteroscopy and the increasingly sophisticated imaging will assist provision of robust evidence for the underlying cause.

The increased availability of medical options has expanded the choice for women. Many will no longer need to recourse to potentially complicated Surgery Treatment must remain individualized and encompass the impact of pressure symptoms, desire for retention of fertility and contraceptive needs, as well as address the management of their AUB in order to achieve improved quality of life. This study was done to evaluate histopathology of endometrium for identifying the endometrial causes of AUB. Endometrial sample could be effectively used as the 1st diagnostic step in AUB⁹. We also tried to observe the incidence of various pathology in different age groups presenting with Abnormal uterine bleeding.

Method:

This prospective study was conducted in the department of Obstetrics and Gynaecology of Comilla Medical College Hospital on 55 patients who presented with AUB from October 2017 to August 2019. From all admitted AUB patients only 55 patients included in this study. All obstetric causes of AUB (including abortion and pregnancy related causes) were excluded. Detailed clinical history like age, menstrual status including pattern, period and regularity of cycle were obtained and relevant findings of general and systemic examination were recorded in a predesigned data collection sheet. Ultrasonography of lower abdomen and transvaginal sonography were done by GE, VolusonS¹⁰ and thus we concerned about endometrial thickness and other uterine and adnexal pathology, endometrial tissue collected by sampling procedure such as Dilatation and Curettage (D&C), hysteroscopic guided curettage had been sent for histopathological examination (HPE)⁶. The HPE reports were analyzed. These women were managed either

conservatively depending upon the therapeutic response of D&C or by definitive Surgery.

Histopathological reports of endometrial pattern as well as that of the hysterectomy specimens were correlated with our clinical diagnosis and sonographic reports.

Result:

The FIGO - 2011 PALM-COEIN classification system shown in the flow chart in Figure – 1. Among 55 Studied patients age was in between 18 to 56 years and 43.64% were of 31-40 years age group. 52.73 patients were multipara shown in table-I, II. 53% patient used contraceptives (both temporary and permanent methods) and 47% did not accept any methods (Table-III). The bleeding patterns of AUB patients have shown in table– IV. Most of the patients 58.18% had metrorrhagia i.e intermenstrual bleeding. Table-V showing on admission 72% patient were suffering from mild anaemia, 20.37% were moderately anaemic and 9.09% presented with severe anaemia. Types and findings of imaging studies shown in figure-2, 3, 47.27% patients had normal Study of Uterus and adnexa, 30.90% had thickened endometrium, 10.90% had adenomyosis, 3.63% had leiomyoma and 7.27% patients had other pathology in pelvic organs.

Table-VI, VII shows histopathology report of endometrial tissue and resected uterus. Commonest pathology irrespective of the age group was proliferative pattern 30.90%. secretory 9.09% endometrial hyperplasia 5.45%, acute endometritis 3.63%, Chronic endometritis 9.09%, atrophic endometritis 5.45%, endometrial polyp 7.27%, chronic cervicitis 7.27%, adenomyosis 9.09% and leiomyoma 3.63%. Management given with hormone 52.72% patient, 25.45% patient were managed without hormone. Total abdominal hysterectomy were done on 7 patients and 5 patients were given medical treatment with drugs Table-VIII.

Table – I: Age Distribution of Patients (N = 55)

| Age Group (Years) | Number of Patients | Percentage (%) |
|-------------------|--------------------|----------------|
| <20 | 4 | 7.27% |
| 21-30 | 4 | 7.27% |
| 31-40 | 24 | 43.64% |
| 41-50 | 19 | 34.55% |
| >51 | 4 | 7.27% |

In this study, the age of the patients ranged between 18 to 56 years. Most of the patients belonged to the age group 31 – 40 years (43.64%).

Table – II: Parity distribution of the patients (N = 55)

| Parity | Number of Patients | Percentage (%) |
|-----------------|--------------------|----------------|
| Unmarried | 2 | 3.64% |
| Nulliparo | 2 | 3.64% |
| Primipara | 4 | 7.27% |
| Multipara | 29 | 52.73% |
| Grand Multipara | 18 | 32.72% |

Table – II: Shows that 52.73% patients were multipara and 32.72% patients were Grandmultipara.

Table – III: Contraceptive history in AUB Patients (N = 55)

| Contraceptive | Number of Patients | Percentage (%) |
|---------------|--------------------|----------------|
| Used | 29 | 52.73% |
| Not Used | 26 | 47.27% |

Table – III Showing 52.73% patients used contraceptives either temporary or permanent and 47.27% did not use any methods.

Table – IV: AUB patients present with following symptoms.

| Patterns of bleeding | Number of Patients | Percentage (%) |
|--------------------------|--------------------|----------------|
| Menorrhagia | 17 | 30.91% |
| Metrorrhagia | 32 | 58.18% |
| Dysmenorrhoea | 7 | 12.73% |
| Polymenorrhagia | 4 | 7.27% |
| Postcoital bleeding | 1 | 1.82% |
| Post menopausal bleeding | 3 | 5.4% |

Table – IV: Shows Most common presenting feature was metrorrhagia (Intermenstrual bleeding) 58.18%

Table: -V: Severity of Anaemia while present (N = 55)

| Severity of Anaemia | Number of Patients | Percentage (%) |
|---------------------|--------------------|----------------|
| Mild | 39 | 72.22% |
| Moderate | 11 | 20.37% |
| Severe | 5 | 9.09% |

Table – V: Showing during admission 72.22% patients had presenting with mild anaemia, 20.37% had moderate and 9.09% had severe anaemia.

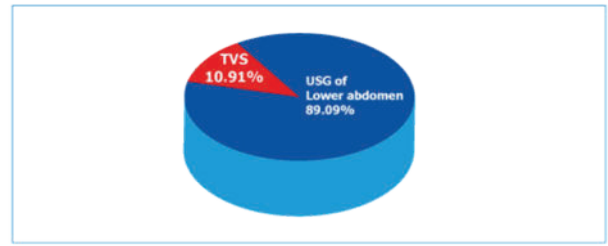
**Figure – 2: Imaging studies of AUB Patients**

Figure – 2 Shows that 89.09% patients had done USG of Lower Abdomen and only 10.91% patients had done transvaginal sonography.

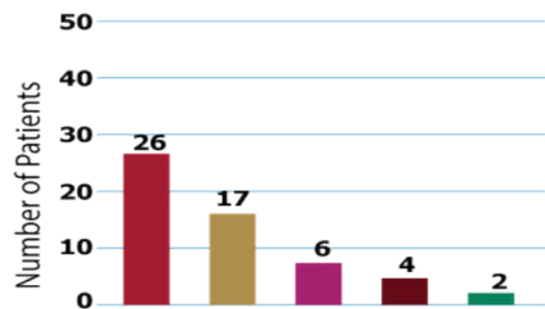
**Figure – 3: Findings of imaging studies**

Figure – 3 Showing 26 (47.27%) patients had normal study of uterus and adnexa, 17 (30.90%) had thickened endometrium, 6 (10.90%) had adenomyosis, 2 (3.63%) had leiomyoma and 4 (7.27%) patients had other pathology in pelvic organs.

Table – VI: Histopathology report of endometrial Tissue (N = 55)

| Endometrium | No of Patients | Percentage (%) |
|-------------------------|----------------|----------------|
| Proliferative phase | 17 | 30.90% |
| Secretory phase | 5 | 9.09% |
| Endometrial hyperplasia | 3 | 5.45% |
| Acute endometritis | 2 | 3.63% |
| Chronic endometritis | 5 | 9.09% |
| Atrophic endometria | 3 | 5.45% |
| Endometrial polyp | 4 | 7.27% |
| Chronic cervicitis | 4 | 7.27% |

Table – VI: Shows commonest pathology of endometrial tissue irrespective of the age group was proliferative phase 30.90%.

Table – VII: Histopathology report of resected uterus (N=55)

| Specimen of Uterus | No of Patients | Percentage (%) |
|--------------------|----------------|----------------|
| Adenomyosis | 5 | 9.09% |
| Leiomyoma | 2 | 3.63% |

Table – VIII: Management given in AUB patients (N=55)

| Type of Treatment | Number of Patients | Percentage (%) |
|------------------------------|--------------------|----------------|
| With hormone | 29 | 52.72% |
| Without hormone | 14 | 25.45% |
| Total abdominal hysterectomy | 7 | 12.72% |
| Medical treatment | 5 | 9.09% |

Table – VIII showing after diagnosis 53% patients were treated with hormone, 25% patients without hormone, surgical treatment was given on 13% patient and 9% patient were treated with drugs.

Discussion:

Abnormal uterine bleeding (AUB) is a common gynaecological problem and the principal reasons for gynaecological consultation¹⁰⁻¹³. The 55 women's having age from 18-56 years history of abnormal uterine bleeding was studied here. The youngest patient in our study was a 18 years old girl and the oldest was a 56 year old lady. Among them 31-40 years age group (43.64%) mostly affected. In a study done by Vinod Kumar et al. at Sri Ramachandra Medical College and Research Institute, Chennai, India on 620 patients. In their study the most common age group was 41 to 50 years (33.5%) which is quite similar with our 2nd commonest group 41 to 50 years (34.55%). In our study most of the patients were multipara (52.73%) and 53% patient had history of taking temporary or permanent contraceptive methods. The most common clinical manifestation was metrorrhagia (intermenstrual bleeding) – 58.18%. This pattern can be considered as AUB-O. Here the endometrium is without adequate hormonal support so, slight losses or spotting occurs for many days before the proper flow starts.¹⁴ We found menorrhagia 30.91%, polymenorrhagia 7.27% and post menopausal bleeding 5.4%. In other study done by Dr. Kumar Suneet in 2016 at Katihar Medical College, Bihar India, where study patient was 50 and among them the bleeding patterns were HMB (Heavy menstrual bidding) in 14 women, metrorrhagia in 8 women's and post menopausal bleeding was in 4 women. On admission 72.22% patients showed mild anaemia and 9.09% patients had severe anaemia and required blood transfusions. USG and TVS were done for detection of pathology, 26 patients (47.27%) had normal study of uterus and adnexa 17 patients (30.90%) had thickened endometrium, 6 patients (10.90%) had adenomyosis, 2 (3.63%) had leiomyoma and 7.27% showed other pathology. Though endometrial sampling can be done by D&C, endometrial aspiration and hysteroscopy, hysteroscopic directed biopsy is considered gold standard. Dilatation and curettage can be a diagnostic as well as therapeutic procedure.¹⁵ We compared endometrial patterns with Katihar Medical College, Bihar, India. In our study proliferative endometrium was found in 17 women compared with the Kumar Suneet Study

which revealed that abnormal uterine bleeding represented by proliferative endometrium was found in 18 cases among 50 patients having age 20 to 60 years. So, it is quite similar with our study. Interestingly, several studies point to a higher prevalence of proliferative endometrium in AUB patients.¹⁶

Bhosle A and Fonseca M et al showed in their study that abnormal uterine bleeding represented by proliferative endometrium was found 53% of cases in Jordan university study among 116 women, the Sion Hospital and LTMMC study-66.1% of cases among 112 women and the study of G Michail et al 9.8%. among 84 AUB patients.¹⁶ Secretory phase shown in 5 patients, endometrial hyperplasia was seen in 3 patient, acute and chronic endometritis was seen in 7 patients, atrophic endometritis in 3 patients, endometrial polyp in 4 patients and another 4 patients chronic cervicitis was diagnosed. The endometrium undergoes periodic changes in response of the hormonal changes. The incidence of endometrial hyperplasia in this study was less as compared to Kumar Suneet study which was 8 out of 50 patients.¹⁶ The possible explanation could be that most of the patients here belong to lower socioeconomic status and the occurrence of risk factors like obesity, diabetes, increased intake of animal fat and sedentary life style is low. Another reason could be that most of these patients are being identified at a much earlier stage that is in the disordered proliferative stage. Incidence of atrophic endometrium is also less than Kumar Suneet study which was 7.¹⁶ Secretory phase is also less than the former study which was 12. Bleeding in the secretory phase is due to ovulatory dysfunctional uterine bleeding, atrophic endometrium was seen predominantly in the postmenopausal women. It is postulated to be due to anatomical vascular variations or local abnormal haemostatic mechanisms. Majority of women with uterine leiomyoma associated with menorrhagia. In our study 2 women (3.63%) was diagnosed clinically and by imaging as leiomyoma underwent total abdominal hysterectomy and specimen proved by histopathological examination. Menorrhagia in fibroids is due to an increase in size of the endometrial cavity and of the bleeding surface; increased vascularity of the uterus; associated endometrial hyperplasia; hyperestrogenism; compressions of veins by the tumour with consequent dilatation and engorgement of venous plexuses in the endometrium and myometrium; and interference with uterine contractions which are alleged to control the blood flow in the uterine walls. Adenomyosis is a lesion in which there is a growth of endometrial cells inside the uterine myometrium. Diagnosis of adenomyosis on clinical finding is usually different.¹⁷ Transabdominal sonography (TAS) doesn't allow reliable diagnosis of adenomyosis even TVS has limitation in tissue characterization. MRI is more helpful to diagnose

adenomyosis but expensive. In our study the incidence was 9.09%. The adolescent age group (<20Yrs) accounted for 7%. One girl was suffered from AUB-C due to acute hepatitis, treated with hepatology department. Another 2 adolescent patients were suffering from puberty menorrhagia and treated by hormone. Other 2 patients diagnosed as hyperthyroidism and hypothyroidism and treated accordingly. In our study 29 patients were treated with hormone and 14 patients without hormone. Total abdominal hysterectomy were done on 7 patients and 5 patients were given medical treatment.

Conclusion:

AUB is a considerable health care burden for women and has a definite effect on quality of life. It is mostly evaluated based on histopathological examination of the endometrium after biopsy taken. Endometrial Sampling could be effectively used as the 1st diagnostic step in AUB and a specific diagnosis could help the physician to plan therapy for successful management of AUB. Once pathology is excluded, in practice management needs to be individualized taking into account the improvement of the women symptoms and quality of life.

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Efficacy of Single Dose of Vaginal Misoprostol in First Trimester Missed Abortion

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Abstract:

Background: Missed abortion is a cause of worry to both patient and gynaecologist. The gynaecologist's concern is to decide the method of terminating the pregnancy. The problems arise because of closed cervix, bulk of products and the possibility of adherence of products of the uterine wall. Previously we used 400µg misoprostol per vaginally in first trimester of missed abortion, but the dose repeated every six hours until expulsion. A single dose of 800µg vaginal misoprostol may be offered as an effective, safe and acceptable alternative to previous medical and traditional surgical treatment. **Objective:** The aim of the study was assessed the efficacy, safety and acceptability of single dose of vaginal misoprostol in first trimester missed abortion. **Methods:** It was conducted in 50 patients who fulfilled the selection criteria. The patients with missed abortion about 6–12 weeks of gestation were selected. This prospective observational study was carried out in the Department of Obstetrics and Gynaecology of Cumilla Medical College Hospital from 1st January 2013 to 30th June 2013.

Results: In this study, 50 cases were included. Among them 88% experienced complete expulsion, 8% cases needed oxytocin drip as an adjunct and 4% needed surgical evacuation when misoprostol and oxytocin failed to expel the product of conception. Mean induction to spontaneous expulsion time was 10.32±3.28 and side effect also observed in 10% cases. It is found that 4% of patients needed surgical evacuation but one of the important observation is that cervix was very soft and somewhat dilated during evacuation which reduce the risk of operation (Dilatation, Evacuation and Curettage). **Conclusion:** The use of single dose of vaginal misoprostol is an effective and safe management option for missed abortion.

(J Com Med Col Teachers Asso January 2020; 24(1): 25-30)

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Introduction:

Missed abortion implies the pregnancy that is retained following death of the fetus before twenty weeks¹. A missed abortion is also defined as the presence of an intrauterine gestational sac containing an embryo of length >4.0 mm, but with no heartbeat². A blighted ovum, an embryonic pregnancy or embryonic/ fetal demise is also said to be a missed abortion³.

Spontaneous abortion is the most common complication of early pregnancy. Approximately 10 to 20 percent of clinically recognized under 20 weeks of gestation undergoes spontaneous abortion, 80% of these occurs in the 12 weeks of gestation. In one study, in which the daily urinary hCG assesses were determined, the total rate of pregnancy loss after implantation was 31%; 70% of those (22% of all pregnancies) occurred before the pregnancy detected clinically³.

In Bangladesh, approximately half of the admissions in Gynaecological department of major urban hospital are for complication of abortion. In many studies, it is found that the abortion related deaths declined from 5% of MMR in 2001 to about 1% of MMR in 2010 in Bangladesh⁴. Abortion ratio in MCH–FP area was about 30 per 1000 women for 15 – 49 years old and 35 per 1000 women for 15 – 49 years old (estimated in 1982 – 98)⁵.

Chromosomal abnormalities are causative approximately 50% of spontaneous abortions⁶. Autosomal trisomy 50%, monosomy X 20%, polyploidy 22% and others 8%. Multiple of other factors also may play role such as anatomical abnormalities, uterine malformations, hormonal abnormalities, maternal TORCH infection, immunological disorder, environmental agent, blood group incompatibility and unknown factors⁷. In missed abortion, it is not known why the pregnancy is not expelled. It is possible that the normal progesterone production by the placenta continues while the oestrogen level fall, which may reduce uterine contractibility to expel the product of conception¹. All missed abortion would probably be expelled spontaneously in the long term, but there may be a delay of weeks or months. In a few cases there is a risk of hypo-fibrinogenemia after death of fetus for some weeks, probably caused by thromboplastin from the chorionic tissue entering the maternal circulation. Therefore active management is often chosen⁸.

Missed abortion is a cause of worry to both patient and gynaecologist. The gynaecologist's concern is to decide the method of terminating the pregnancy⁸. The problems arise because of closed cervix, bulk of products and the possibility of adherence of products of the uterine wall. This adherence increases the chance of incomplete evacuation and uterine perforation⁸. A major coagulation disorder is rare if the fetus is retained for less than one month, but occurs in 25-30% of cases thereafter.

In 1950s, synthetic oxytocin became available and increasing doses were used to terminate mid trimester abortion. But in early 1980s till now numerous studies have shown that locally applied prostaglandins (principally PGE1, PGE2) results are promising⁹. The commonly practiced method of managing missed abortion is dilatation and evacuation. However medical methods of abortion are now establishing themselves in clinical practice. Non-surgical methods of terminating pregnancy using prostaglandins by various routes following administration of progesterone antagonists are successful early gestation. Use of prostaglandins alone in missed abortion without a progesterone antagonist is logical because of death of the concepts brings about natural fall in progesterone level.

There are reports of use of vaginal misoprostol alone for abortion and of claims that it is better than oral misoprostol. Use of medical methods is expected to bring about gradual non-traumatic dilatation of cervix, separation of products, level this expulsion. Few cases might require surgical evacuation to remove retained products.

Misoprostol, a synthetic analogue of the prostaglandin

which was initially used in peptic ulcer treatment is a promising agent in cervical ripening⁸. It is closely related to other prostaglandins such as dinoprostone (PGE2) Carboprost, Gemiprost¹⁰.

Both oral and vaginal forms of misoprostol, independent of their local effect on cervix and prostaglandin, stimulate the myometrium resulting uterine contraction and help to expel the pregnancy. Those have potent uterotonic and cervical ripening activity¹¹. Those soften and open the cervix¹². Misoprostol 200µg tablets are available in the market. It binds to E2 and E3 prostanoïd receptors. Its plasma metabolites is misoprostolic acid. It is rapidly absorbed after oral, vaginal and rectal administration; safe, inexpensive, easily stored, minimal side effects in compare with the other prostaglandins. It is not affected by ambient temperature and needs no refrigeration, needle and syringe for its storage and administration¹¹.

Previously we used 400µg misoprostol per vaginally in first trimester of missed abortion, but the dose repeated every six hours until expulsion¹³. Recently a single dose of 800µg vaginal misoprostol is recommended for this indication¹⁴.

If misoprostol proves safety and effective, a large number of patients will be benefited and will escape from the surgical instrumentations and complications.

Rationale of the study: Based on different published literature, a single dose of 800µg vaginal misoprostol may be offered as an effective, safe and acceptable alternative to the traditional surgical treatment for this indication in the first trimester missed abortion. This study will reveal efficacy, side effects, pharmacological effect, and needs for surgical evacuation and short term complications associated with vaginal administration of misoprostol as the initial management of missed abortion in Cumilla Medical College Hospital.

Methods:

This research was a prospective observational study. This research work was done in department of Obstetrics and Gynaecology of Cumilla Medical College Hospital, Cumilla. This study was carried out from 1st January 2013 to 30th June 2013. From all abortion cases admitted in the department of Obstetrics & Gynaecology of Cumilla Medical College Hospital, Cumilla during the study period, who fulfilled the criteria, was enrolled for the study. Random selection was chosen for sampling method. Sample size will be defined using the following formula:

$$N \frac{Z^2PQ}{d^2} = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.1)^2} = 96$$

Here, N= the desired sample size; Z = the standard normal deviation set at 1.96 which corresponds to the 95% confidence limit; P = the proportion of the target population estimated to have a particular characteristics. If there is no reasonable estimate, then we have to use 50%; Q = 1 - P; d = degree of accuracy desired. Usually set at 0.1. Due to time limitation and financial constraint sample size N of current study is 50.

Inclusion criteria were pregnancy duration up to 12 weeks and USG diagnosed cases of missed abortion without any medical disorders. Exclusion criteria were patients with bronchial asthma, adrenal diseases, heart diseases, hepatic insufficiency, glaucoma, history of or evidence of thromboembolism, suspected or proven ectopic pregnancy, and known case hypersensitivity to prostaglandin, clinical or laboratory evidence of severe anemia, active vaginal bleeding, cramping and dilatation of internal OS and previous history of caesarian section.

For this study data is collected from predesigned data sheet for the patients. After obtaining informed consent, taking detailed history by making questionnaire and performing necessary examination insertion was done. Ultrasound was taken as an integral part of diagnosis of missed abortion. 800µg of misoprostol (single dose) was introduced per vaginally and applied in the posterior fornix. Follow-up was done at 4 hours interval or whenever the patient complained any problem. If the patient did not respond with above regimen after 24 hours, oxytocin infusion was started. In spite of misoprostol and oxytocin if the patient failed to respond, surgical evacuation was attempted. Ultrasonography was done after 24 hours to confirm complete expulsion.

The side effects such as nausea, vomiting, diarrhea, headache, fever and severe cramping, shivering were evaluated based on nursing observation and individual women's complaints. All women were then observed for vital sign symptoms and for excessive vaginal bleeding. Antibiotic Tab Ciprofloxacin (500mg) 12 hourly was given to all patients. The patients were discharged after few hours of spontaneous expulsion. NSAID or other analgesia was used for pain relief. Some patients needed antiemetic for nausea and vomiting.

A 50µg dose of Rh(D) immunoglobulin was administered to Rh-negative women after complete expulsion of products. Only 2 patients out of 50 patients were given injection anti-D.

All necessary information were noted in data collection sheet (in appendix herewith). The findings were compiled and necessary statistical analysis was done by using computer based software (SPSS-Statistical Package for

Social Science). Finally the results have been shown in different tables.

Results:

Among 50 studied patients most of the women were belonged to age group 21–30 years (70%). Mean (±SD) age of the women was 25.6±5.44 range (18–42 years). Most of the patients (60%) were 9–12 weeks of gestational age. Mean (±SD) gestational age of the women was 9.3±1.45. There was no history of previous abortion in 54% of cases. Previous history of one abortion was 30%, two abortions 14% and three abortions 2%. The mean (±SD) of the previous history of abortion was 0.64±0.79. Out of 50 patients asymptomatic was 24%, H/O P/V bleeding was 60% and disappearance of pregnancy symptom 16%. In this study 88% women required only Tab. Misoprostol for expulsion of product of conception and 8% required oxytocin drip additionally and the rest 4% women required surgery when Tab. Misoprostol and Oxytocin drip failed to complete expulsion of the product of conception. Spontaneous expulsion occurred after administration of misoprostol within 4–8 hours 24%, within 8–12 hours 50%, within 12–16 hours 20% and more than 16 hours 6%. So, maximum expulsion occurs within 8–12 hours. Mean (±SD) time required for expulsion of product of conception was 15.44 ± 3.91 in 44 women who were given Tab. Misoprostol only. About 90% patient showed no side effect. Ultrasonographic evaluation shown complete expulsion in 80% cases, by only Tab misoprostol. Misoprostol plus Oxytocin in 8% cases and 4% patient required surgical management. About 8% patients left the hospital before USG. Among these studied patients 90% were highly satisfied.

Table 1: Age distribution of the patients (n=50).

| Age (year) | Number of patients | Percentage |
|------------|--------------------|------------|
| ≤ 20 | 6 | 12% |
| 21 – 30 | 35 | 70% |
| ≥ 30 | 9 | 18% |

Table 2: Distribution of the patients according to gestational age (n=50)

| Gestation (week) | Number of patients | Percentage |
|------------------|--------------------|------------|
| 6 – 9 | 20 | 40% |
| 9 – 12 | 30 | 60% |

Table 3: Previous history of abortion (n=50)

| Previous H/O abortion | Number of patients | Percentage |
|-----------------------|--------------------|------------|
| No abortion | 27 | 54% |
| 1 abortion/MR | 15 | 30% |
| 2 abortion/MR | 7 | 14% |
| 3 abortion/MR | 1 | 2% |

Table 4: Clinical presentation (n=50)

| Clinical presentation | Number of patients | Percentage |
|------------------------------------|--------------------|------------|
| Asymptomatic | 12 | 24% |
| H/O P/V bleeding | 30 | 60% |
| Disappearance of pregnancy symptom | 8 | 16% |

Table 5: Procedure required for expulsion of conception (n=50).

| Procedure | Number of patients | Percentage |
|---|--------------------|------------|
| Tab. Misoprostol only | 44 | 88% |
| Tab. Misoprostol followed by oxytocin drip | 4 | 8% |
| Tab. Misoprostol followed by oxytocin drip and surgical evacuation (Incomplete expulsion) | 2 | 4% |

Table 6: Induction expulsion interval (hours)

| Induction expulsion interval (hours) | Number of patients | Percentage |
|--------------------------------------|--------------------|------------|
| 4 – 8 | 12 | 24% |
| 8 – 12 | 25 | 50% |
| 12 – 16 | 10 | 20% |
| > 16 | 3 | 6% |

Table 7: Induction expulsion interval in relation to mode of induction

| Induction | Number of patients | Expulsion time (hours) range | Induction wise Mean \pm SD | Mean \pm SD |
|---|--------------------|------------------------------|------------------------------|-----------------|
| Tab. Misoprostol | 44 | 4:00 – 24:00 | 15.44 \pm 3.91 | 16.65 \pm 3.1 |
| Tab. Misoprostol followed by oxytocin drip | 4 | 24:00 – 26:00 | 24.83 \pm 1.85 | |
| Tab. Misoprostol followed by oxytocin drip and evacuation | 2 | 26:00 – 28:00 | 27.03 \pm 2.13 | |

Table 8: Side effect of misoprostol (n=50)

| Side effect | Number of patients | Percentage |
|----------------|--------------------|------------|
| Nausea | 2 | 4% |
| Fever | 2 | 4% |
| Vomiting | 1 | 2% |
| Diarrhea | 0 | 0% |
| No side effect | 45 | 90% |

Table 9: Ultrasonographic evaluation after expulsion product of conception.

| Result | Number of patients | Percentage |
|---|--------------------|------------|
| Complete expulsion | | |
| Tab. Misoprostol | 40 | 80% |
| Tab. Misoprostol followed by oxytocin drip | 4 | 8% |
| Incomplete expulsion | | |
| Tab. Misoprostol | 0 | 0% |
| Tab. Misoprostol followed by oxytocin drip | 2 | 4% |
| Number of patients left the hospital before USG | 4 | 8% |

Table 10: Level of patients' satisfaction

| Level of patients' satisfaction | Number of patients | Percentage |
|---------------------------------|--------------------|------------|
| Highly satisfied | 46 | 92% |
| Satisfied | 4 | 8% |
| Unsatisfied | 0 | 0% |

Discussion:

Missed abortion is a common gynaecological problem and commonest complication of early pregnancy. Worldwide abortion rate is 35 per thousand women of age 15–44 years¹⁵. It is best to evacuate the uterus without delay. The presence of a non-viable pregnancy is upsetting to the mother and there is a small risk of coagulation defect if a dead fetus is retained for several weeks¹⁶. Considerable savings in resources can be made if routine curettage for this condition is the minimum following a medical rather than direct surgical approach. The main outcome measures examined in this study were the efficacy and safety of single dose of vaginal misoprostol administration in the medical management of first trimester missed abortion.

The objective of this study was to evaluate the single regimen of misoprostol in vaginal route increases expulsion rate within 24 hours and reduce the induction to expulsion interval.

In this study we have demonstrated that vaginally administered misoprostol in a dose of 800 μ g has increased the success rate of medical management of first trimester missed abortion.

Grimes et al concluded that class 1 evidence and class A recommendation for first trimester abortion existed for misoprostol as the most effective prostaglandin, either as a single agent or as an adjunct to mifepristone or methotrexate¹⁷.

In this study, 50 patients who fulfilled the inclusion criteria were enrolled. The demographic and clinical characteristics were evaluated. Most of the patients were admitted in third decade of life (70%). Most of the patients were multiparous (62%) and 16% patients were nulliparous. The gestational ages of the most of the patients were higher 9–12 weeks.

In a study conducted by Zalanyi⁹ using vaginal misoprostol for missed abortion, the characteristics of women showed mean (\pm SD) age as 25.8 \pm 5.25 years, gravidity 2.4 \pm 1.42 and parity 1.0 \pm 0.84. That study included only the cases of amenorrhea up to 13 weeks, whereas our study included first trimester cases.

The efficacy of vaginal misoprostol was also studied for medical management of missed abortion by Wood¹⁸, where gestational age of the patients ranges from 7 to 17 weeks (median 12 weeks). The mean (\pm SD) age of the patients was 31 \pm 5, 56% were nulliparous.

In both the studies, vaginal misoprostol was found to be quite effective in expulsion of product of conception in missed abortion cases, reducing the need for surgical evacuation.

In our study, the mean (\pm SD) age of the patients was 25.6 \pm 5.44 years (range 18–42 years) and the parity 1.82 \pm 1.16 (range 0–4).

In the present study, 88% women experienced complete expulsion with Tab misoprostol (only), 8% women required additional oxytocin drip and 4% patients needed surgical evacuation when misoprostol and oxytocin failed to expel the product of conception shown in Table–VI.

In a study carried out in Bangladesh by Baby (2006)¹⁹ using 3 Tab misoprostol (600µg) vaginally for medical treatment of early missed abortion (less than 10 weeks size gestation), it was found that 62.5% women had complete expulsion with vaginal misoprostol and surgical evacuation was needed in 35.5% women of whom 25% had dilated cervix. The mean age of the studied population was 26.5 years (range 17–40), the mean gestational age at missed abortion was 7.5 weeks (range 6–10) and the mean parity was 1.3 (range 0–3)²⁰.

In the present analysis, most of the patients had complete expulsion of products of conception after misoprostol administration, resulting in a favorable mean induction to spontaneous expulsion time of 10.32±3.28 hours.

In an analysis carried out by Wood¹⁸, 80% patients aborted completely after two vaginal doses of 800µg of misoprostol tablet. There was also an additional benefit of safe dilated cervix found during surgical treatment. There was no occurrence of life threatening bleeding and none of the patients needed blood transfusion. The patient's satisfaction with the drug was quite high.

EL Rafacyet al (1995)¹⁶ found that vaginal administration was more effective than the oral route. The local effect of misoprostol on the cervix was considered to be one of the reasons.

In our analysis, the side effects experienced by the patients were negligible, only 4% patients had febrile reaction and 4% patients complained of nausea and 2% vomiting. Some analgesia and anti-emetic was used for these minor side effects.

Our study demonstrates that the vaginal administration of misoprostol is very effective. This may be because of higher uterine levels of misoprostol due to direct absorption from the posterior fornix and local effect of misoprostol on uterine cervix. Zalanyi (1998)⁹, and Thomas and Habibullah (2004)²⁰ have successfully managed missed abortion medically without progesterone antagonist. Lee et al (2001)²¹ has also indicated that the medical treatment of abortion with misoprostol is psychologically safe and higher client acceptance and satisfaction rate.

Y Herabutya et al (1997)²² showed in their study that 35 out of 42 women were successfully treated by the administration of vaginal misoprostol in the management of missed abortion. In their study, induction expulsion time was 11.63±6.14 hours.

Ziemsnet al (1997)²³ demonstrated that plasma level of misoprostol reached the peak slowly (80 min) after vaginal administration and the level was sustained up to 4–6 hours.

This present study showed that 92% patient were highly satisfied and satisfied 8%.

Conclusion:

Single dose of vaginal misoprostol is a safe, effective and economic method of treating missed abortion. Medical method avoids complications related to intra-uterine instrumentation and saves expenditure on Operation Theater and anesthesia. After administration of misoprostol, hospitalization is not necessary and the time to expulsion varies considerably. Side effects were fewer in women who received misoprostol and the method was well accepted.

From this small study, it is anticipated that single dose of vaginal misoprostol is effective in medical evacuation of missed abortion. Counseling should include specific information about the potential advantages and disadvantages of vaginal administration. The patients needed to be involved in the management, decision making in order to improve compliance with treatment.

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Role of Diaphragm Excursion in Prediction of Weaning from Mechanical Ventilation

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Abstract:

Background: Diaphragm is the principal muscle of respiration. Impaired function of diaphragm can lead to difficulty in weaning. Mechanical ventilation can cause fatigue and weakness of diaphragm. Bedside ultrasonography is a simple noninvasive method of direct visualization of diaphragm function and diaphragm excursion can be a useful tool to assess weaning from mechanical ventilation. **Aim:** The aim of the study was to evaluate the efficacy of diaphragm excursion in guiding weaning from mechanical ventilation. **Methods:** It was a prospective observational study and conducted among purposively selected 35 patients with mechanical ventilation in ICU of Dhaka Medical College Hospital as per inclusion criteria. Patients underwent spontaneous breathing trial when they fulfill the following criteria: FiO₂ <0.5, PEEP ≤5 cm of H₂O, PaO₂/FiO₂ <200, respiratory rate <30 breaths/min, absence of fever, alert and co-operative and hemodynamically stable without any vasoactive drug. Right sided diaphragm was visualized using liver as an acoustic window at the mid clavicular line using 1-5 MHz low frequency probe and diaphragm

excursion was measured in M-Mode in quiet breathing. Patients were grouped into normal diaphragm excursion and reduced diaphragm excursion (cut of value 1.00 cm). Each group was followed up to 48 hours to see success of weaning. **Results:** Among 35 patients enrolled in the study 51.4% had normal diaphragm excursion and 48.6% had reduced diaphragm excursion. Mean duration of ventilator support and length of ICU stay were prolonged in reduced diaphragm excursion group. There was significantly increased success rate in normal diaphragm excursion group compared to reduced diaphragm excursion group (94.1% vs 61.1%) in spontaneous breathing trial (p=0.41). Significant difference was found in Kaplan-Meier plots between normal and reduced diaphragm excursion group and probability of remaining on spontaneous breathing was higher in normal diaphragm excursion group (Log rank p=0.017). **Conclusion:** This study concluded that diaphragm excursion can predict weaning from mechanical ventilation.

Key words: Diaphragm Excursion, Mechanical Ventilation

(J Com Med Col Teachers Asso January 2020; 24(1): 31-34)

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Introduction:

The diaphragm is the prime mover of respiration and it has key role in maintenance of breathing.¹ It is a dome shape skeletal muscle that separate abdomen from thoracic cavity. During quiet breathing it involves in most of the work of breathing.² In exercise and dyspnea when demand of respiration is high intercostal muscles also involve in respiration.³ Intercostal muscles are made of mostly white fibers which are less resistance to fatigue.⁴ So they can temporally meet the needs but in the long run they become fatigue and the condition worsens. In this situation, intensivists put their patients on mechanical ventilation to overcome respiratory failure and also give rest to the respiratory muscles. The intensivists may choose full or partial ventilator support to unload the respiratory muscles depending on the condition of their patients. The main benefit of rest of respiratory muscle is their metabolic recovery. Respiratory muscle depletion of glycogen creatinine phosphokinase and adenosine phosphokinase (ATP) has been documented in respiratory failure and was corrected after a period of mechanical ventilation.⁵ When the patient receives controlled ventilation most of the work of breathing is powered by ventilator.⁶ It can lead to fatigue and weakness of diaphragm. In critically ill patients,

inflammatory mediators, impaired tissue perfusion and several other factors contribute to organ dysfunctions which may also involve diaphragm.⁷ So diaphragm dysfunction is not very uncommon in mechanically ventilated patients and the diaphragm plays a pivotal role in successful weaning. It is crucial to identify optimal time to wean patients from mechanical ventilation.⁸ Extubation failure-need for reintubation within 72 h of extubation, is common in intensive care unit (ICU). It can cause increased morbidity, higher costs, higher ICU and hospital length of stay (LOS) and mortality.⁹ Spontaneous breathing trial (SBT) is performed to see the readiness of weaning. Variables such as minute ventilation, tidal volume, respiratory rate, RSBI, maximum inspiratory pressure, CROP index are commonly used in clinical practice to predict extubation outcome. These variables depend on contribution of accessory muscles and their exhaustion may cause weaning failure in the subsequent hours. The Diaphragm can be easily visualized by ultrasonography and their movement can be observed in real time. Diaphragm displacement during respiration can be measured in M mode and reflects the diaphragm's ability to create negative intrathoracic pressure and hence tidal volume. It is a simple noninvasive bedside method. The purpose of this study was to assess whether the degree of diaphragm excursion as measured by B mode ultrasound during a weaning trial can be used to predict extubation outcomes.

Methods:

This was a cross cut analytical study. Observation was done prospectively. Then a prospective observational study was conducted at intensive care unit of Dhaka Medical College Hospital, Bangladesh from January 2017 to June 2017. Total 35 patients with mechanical ventilation were purposively selected. Patients admitted in ICU of Dhaka Medical College Hospital during the study period, patients were in mechanical ventilation and willing to participate with informed written consent were included in the study. On the contrary patients who had history of previous diaphragm dysfunction, who had previous thoracic surgery, who had recent chest injury or CPR, patient or attendant's refusal at any time of study period and accidental or unexplained death during study were excluded for reasonable reasons. Patients underwent spontaneous breathing trial when they fulfill the following criteria: $FiO_2 < 0.5$, $PEEP \leq 5$ cm of H_2O , $PaO_2/FiO_2 > 200$, respiratory rate < 30 breaths/min, absence of fever, alert and co-operative and hemodynamically stable without any vasoactive drug. Right sided diaphragm was visualized using liver as a acoustic window at the mid clavicular line using 1-5 MHz low frequency probe and diaphragm excursion was measured in M-Mode in quiet breathing. Patients were grouped into normal diaphragm excursion

and reduced diaphragm excursion (cut of value 1.00 cm). A checklist was used to collect patients' information using medical records. Finally, these patients were followed up for a period of 48 hours to see success of weaning. Permission was taken from hospital authorities for data collection.

Results:

After fulfilling the inclusion and exclusion criteria, weaning criteria and those gave informed consent total 35 patients were found eligible for the study. Patients' demographics were displayed in Table I. The study population was mostly younger group (35.63 ± 13.14 years) with almost equal male female ratio (51.4% vs 48.6%). Diaphragm excursion (mean \pm SD) was found 1.0069 ± 0.474 cm. Length of ICU stay in days (mean \pm SD) and length of ventilator support (mean \pm SD) were 12.77 ± 5.24 days and 11.17 ± 5.14 days respectively. The study population was grouped into normal diaphragm excursion group and reduced diaphragm excursion group by cut of value of 1.0 cm. we found 51.4% had normal diaphragm excursion and 48.6% had reduced diaphragm excursion (Table II). Our study found that majority of patients of normal diaphragm excursion group was younger (77.8%) and reduced diaphragm excursion group was mostly composed of older group of patients (52.9%) (Table III). The reduced diaphragm excursion was higher among male patients (64.7%) and normal diaphragm excursion was higher among female patients (61.1%) (Table IV). Length of ICU stay was prolonged in reduced diaphragm excursion patients group in comparison with normal diaphragm excursion group 13.56 ± 4.19 vs 11.94 ± 6.20 . Mean duration of mechanical ventilation was also higher in reduced diaphragm excursion patient group 12.11 ± 4.26 vs 10.18 ± 5.89 (Table V). There was significantly higher success in weaning in normal diaphragm excursion than reduced diaphragm excursion (94.1% vs 61.1%) (Table VI). Kaplan-Meier plots demonstrated a significant difference in between normal and reduced diaphragm excursion group and also found that there was higher probability of remaining on spontaneous breathing in normal diaphragm excursion group (Log rank $p=0.017$) (Fig 1).

Table-I: Patients characteristics at baseline (n=35)

| Characteristics | Value |
|--|--------------------|
| Age in year (mean \pm SD) | 35.63 \pm 13.14 |
| Sex | |
| Female | 17(48.6%) |
| Male | 18(51.4%) |
| Diaphragm excursion in cm (mean \pm SD) | 1.0069 \pm 0.474 |
| Length of ICU stay in days (mean \pm SD) | 12.77 \pm 5.24 |
| Length of ventilator support (mean \pm SD) | 11.17 \pm 5.14 |

Table-II: Distribution of patients by diaphragm excursion (n=35)

| Variables | Frequency | Percentage |
|--|-----------|------------|
| Normal diaphragm excursion ^a | 17 | 51.4 |
| Reduced diaphragm excursion ^a | 18 | 48.6 |
| Total | 35 | 100.0 |

a= cut of value of diaphragm excursion was 1.00 cm, f=frequency

Table-III: Distribution of patients by age between normal and reduced diaphragm excursion group (n=35)

| Age group in years | Normal diaphragm excursion | Reduced diaphragm excursion | Total | p value |
|--------------------|----------------------------|-----------------------------|----------|---------|
| ≤21-40 | 14(77.8) | 8(47.1) | 41(62.9) | ns |
| 41-≥60 | 4(22.2) | 9(52.9) | 69(37.1) | |
| Total | 18(51.4) | 17(48.6) | 35(100) | |

ns=not significant, p value extracted from χ^2 test, n (%)

Table-IV: Distribution of patients by sex between normal and reduced diaphragm excursion group (n=35)

| Sex group | Normal diaphragm excursion | Reduced diaphragm excursion | Total | p value |
|-----------|----------------------------|-----------------------------|----------|---------|
| Female | 11(61.1) | 6(35.3) | 17(48.6) | ns |
| Male | 7(38.9) | 11(64.7) | 18(51.4) | |
| Total | 18(51.4) | 17(48.6) | 35(100) | |

ns= not significant, p value extracted from χ^2 test, n (%)

Table-V: Comparison of mean duration of ventilator support and length of stay (in days) in ICU in normal and reduced diaphragm excursion group of patients (n=35)

| Variables | Normal diaphragm excursion Mean(±SD) | Reduced diaphragm excursion Mean(±SD) | p value |
|---------------------------------------|--------------------------------------|---------------------------------------|---------|
| Duration of ventilator support (n=35) | 10.18(±5.89) | 12.11(±4.26) | ns |
| Length of stay in ICU (n=35) | 11.94(±6.20) | 13.56(±4.19) | ns |

ns=not significant, p value extracted from independent two sample t test

Table-VI: Comparison of weaning outcome in normal and reduced diaphragm excursion group (n=35)

| Weaning | Normal diaphragm excursion | Reduced diaphragm excursion | Total | p value |
|---------|----------------------------|-----------------------------|----------|--------------------|
| Success | 16(94.1) | 11(61.1) | 27(77.1) | 0.041 ^s |
| Failed | 1(5.9) | 7(38.9) | 8(22.9) | |

s=significant, p value extracted from fisher exact test, n (%)

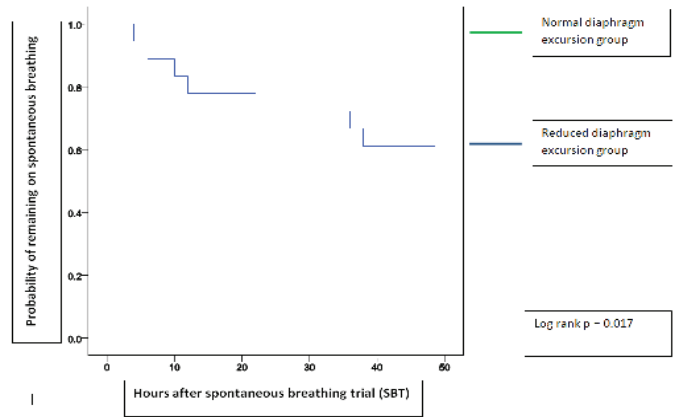


FIG 1: Plot of Kaplan-Meier for normal and reduced diaphragm excursion group

Discussion:

Ultrasonography is a simple noninvasive bedside tool that can provide real time measurement of diaphragm excursion. The examination requires standard ultrasound equipment that is easily available in most ICUs. The right dome of diaphragm can be easily visualized by ultrasound with liver as an acoustic window and its excursion can be readily calculated in M mode using a conventional low frequency 1-3 MHz probe. Diaphragmatic M-mode ultrasonography has recently been applied in healthy individuals¹⁰⁻¹¹ and in patients undergoing a SBT¹² to measure diaphragm excursion. The present study found that weaning was most successful in normal diaphragm excursion group compared to reduced diaphragm excursion group. This study is similar to different previous studies. Another study concluded that as an early predictor of diaphragmatic dysfunction, diaphragmatic excursion is probably superior to the traditional parameters in predicting weaning from ventilator in ICU patients.¹³ Kim et al¹⁴ found that patients with diaphragmatic dysfunction also had higher rates of primary (20 of 24 vs. 34 of 58, p <0.01) and secondary (ten of 20 vs. ten of 46, p=0.01) weaning failures than patients without diaphragmatic dysfunction. Ultrasound evaluation of diaphragmatic excursion and thickness at end inspiration could be a good predictor of extubation outcome in patients who passed SBT. It is recommended to consider the use of these parameters with RSBI consequently to improve extubation outcome.¹⁵ In this study, mean duration of ventilation as well as length of ICU stay was prolonged in reduced diaphragm excursion group. Kim et al¹⁴ found 29% patient who underwent weaning trial had reduced diaphragm excursion (<10 mm). Reduced diaphragm excursion group had longer weaning time (401 [range, 226-612] hrs vs. 90 [range, 24-309] hrs, p <0.01) and total ventilation time (576 [range, 374-850] hrs vs. 203 [range, 109-408] hrs, p<0.01) than normal diaphragmatic excursion. Evidence found that the

ventilation time [2.00(2.00-4.00) d vs 4.00(2.00-5.00) d], ICU hospital lengths of stay [4.50(3.00-7.25) d vs 8.50(6.25-15.25) d] and total hospital lengths of stay [20.00(15.00-25.25) d vs 25.00(20.25-37.25) d] were also statistically significant in success group and failure group respectively (all $p < 0.05$).¹³ The study has several limitations. Ultrasonography finding of diaphragm excursion may be affected by inter observer variation. However, author found that the right dome of diaphragm can be easily visualized and diaphragm excursion can be measured easily in M mode. There is no standard cut value of diaphragm excursion.

Conclusion:

Based on present findings, it may consider that diaphragm excursion could be a useful to predict the success of weaning in mechanically ventilated patients. We believe that future large scale multicenter study should be carried out to analyze its potential role in clinical practice.

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Incidence, Causes, Risk Factors and Morbidity of Secondary PPH in Tertiary Hospital

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Abstract:

Background: Secondary postpartum haemorrhage is one of the important cause of maternal mortality and morbidity. The amount of blood loss varies from mild to severe. In severe cases there is excessive blood loss leading to shock within a moment. But there were limited study about secondary PPH. **Objective:** The main objective is to determine the incidence, cause, risk factors and morbidity of secondary postpartum haemorrhage. **Methods:** It is a retrospective observational study which includes all patients admitted due to significant blood loss from genital tract from 24 hours after childbirth to 42 days postpartum period for the duration of six months from November 2018 to April 2019. A total of 56 patients fulfilling inclusion and exclusion criteria were enrolled into this study. **Result:** Total number of patients admitted into obstetric ward during this period was 3848. Among them 56 patients were admitted for secondary PPH. Out of fifty six cases most women were in the age group of >35 years 47(83.92%) and

multiparous 29 (51.78%). Among total patients 37 (66.07%) had retained bits of placenta and 19 (33.93%) had evidence of infection. Most deliveries were conducted at home by untrained dai 31 (55.36%). Most secondary PPH occurs after vaginal delivery 37(66.07%), some cases 19(33.93%) occurs after caesarean delivery. During management 37(66.07%) needed exploration under general anaesthesia, 4(7.14%) needed total abdominal hysterectomy and 1 patient needed internal iliac artery ligation. **Conclusion:** This study was conducted with a view to assess the magnitude of problem of secondary PPH. So that attention may be focused on areas of substandard obstetric care to improve overall maternal outcome. It can be prevented by increasing institutional delivery, maintaining proper asepsis and adequate training of surgeons.

Keywords: Secondary postpartum Haemorrhage, Retained bits, Home delivery, Infection,

(J Com Med Col Teachers Asso January 2020; 24(1): 35-38)

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Introduction:

Postpartum haemorrhage remains one of the leading cause of maternal mortality and morbidity worldwide. Secondary PPH is defined as any significant bleeding from or into the genital tract by any route (vaginal or intra-abdominal) from 24 hours after childbirth to the 42 day postpartum³⁻⁵. In France 25.8 percent of maternal deaths are because of haemorrhages¹. In Bangladesh 31% of maternal deaths are because of postpartum haemorrhages²

Although immediate PPH (PPH amounting 500 ml or more within 24 hours of delivery) has been studied repeatedly, these parameters are not true for secondary PPH; few studies have reported its frequency, causes or medical and surgical management³⁻⁵. The incidence of these secondary PPH was low ranging from 0.2-3%⁶. This frequency is probably underestimated, because studies generally include only severe PPH requiring hospitalization. In our study we found that incidence of secondary PPH is 1.45%. The cause of secondary postpartum haemorrhages are retained bits of placenta and membranes, endometritis, arterio-venous malformation, placental site trophoblastic disease⁷. Although risk factors for immediate PPH have been clearly identified⁸. Only two published studies have reported predictive factors for secondary PPH^{5,9}.

The first showed that immediate PPH and manual removal of placenta are risk factors for secondary PPH⁹. The second study found the following risk factors; hemorrhage during pregnancy, history of secondary PPH, maternal smoking, a prolonged or incomplete third stage of labor and an immediate PPH⁵.

The principal objective of our work is to determine incidence, causes, risk factors and morbidity of secondary PPH in our country.

Method:

This was a retrospective observational study. A fifty six women admitted into obstetric unit of Cumilla Medical College Hospital during six months period from November 2018 to April 2019 were our target population. We collected data from hospital records from November 2018 to April 2019. Ethical clearance was obtained from respondents. During this period total 3848 patients were admitted into Obstetric ward of Cumilla Medical College. Of them 110 patients were with primary PPH and 56 patients were with secondary PPH.

Inclusion criteria:

All woman who delivered either vaginally or with caesarean section presented with postpartum haemorrhages 24 hours after birth.

Exclusion criteria:

- Women with postpartum haemorrhages within 24 hours of birth.
- Women with per vaginal bleeding after 42 days of delivery.
- Patients with incomplete data.

Data was collected from admitted patients in Obstetric and Gynaecology department of Cumilla Medical College Hospital. Data of the patients were obtained from admission register, operation theatre record and hospital treatment sheets. After collection of data age, parity, mode of delivery, place of conduction of vaginal delivery and caesarean section operation, person by whom vaginal delivery was conducted and caesarean section was done, time interval between delivery and onset of secondary PPH, mode of management, outcome were recorded with pre-form sheet for the purpose of study and analysis. Data were analyzed using SPSS version 16 & presented as means & frequencies.

Results:

A total 56 women with secondary PPH were analyzed. Among these women about 83.92% were belonged to age

group more than 35 years and 51.79% were multiparous.

Table-I: Demographic study (n=56)

| Age variable | | |
|------------------|--------|------------|
| Age(in years) | Number | Percentage |
| >35 | 47 | 83.93 |
| 25-35 | 7 | 12.5 |
| 15-25 | 2 | 3.57 |
| Regarding parity | | |
| Parity | Number | Percentage |
| Primi | 19 | 33.92% |
| Multi | 29 | 51.79% |
| Grand multipara | 8 | 14.29% |

Table-II: Causes of haemorrhage

| Cause | Number | Percentage % |
|---------------|--------|--------------|
| Retained bits | 37 | 66.07 |
| Infection | 19 | 33.93 |

Table-III: Mode of delivery

| Mode of delivery | Number | Percentage |
|-------------------|--------|------------|
| Vaginal delivery | 37 | 66.07 |
| Caesarean section | 19 | 33.93 |

Table-IV: Delivery conducted by

| Name | No. of patient | percentage |
|---------------|----------------|------------|
| Untrained Dai | 31 | 55.36% |
| SBA | 2 | 3.57% |
| Physician | 23 | 41.07% |

Table-V: Time interval between delivery and occurrence of PPH

| Time | Number | percentage |
|-----------|--------|------------|
| 1-7 days | 24 | 42.86% |
| 8-15 days | 20 | 35.71% |
| >15 days | 12 | 21.43% |

Table-VI: Management Type

| Type of Management | No of patients |
|-------------------------------------|----------------|
| Exploration under G/A | 37 (66.07%) |
| Laparotomy followed by hysterectomy | 4 (7.14%) |
| Conservative | 14(25%) |
| Internal Iliac Artery ligation | 1 (1.79%) |

During management one patient needed internal iliac artery ligation as this patient was primiparous, came with shock and bleeding which was not controlled by oxytocics, tranexamic acid and other measures

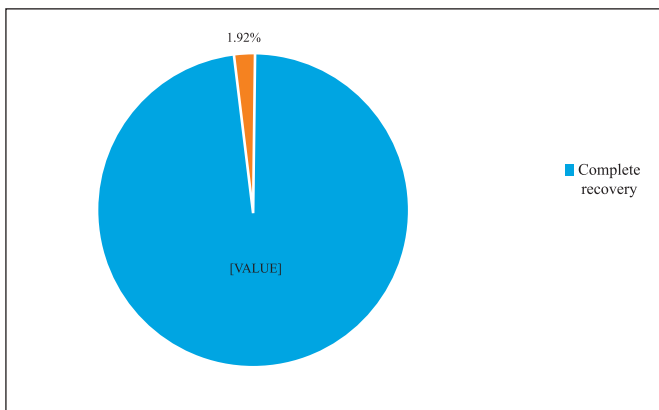


Fig-1: Outcome

After managing these cases 55(98.21%) recovered completely during hospital departure, only one had to be referred to higher center for ICU support due to development of disseminated intravascular coagulation.

Discussion:

Secondary postpartum hemorrhage was initially defined as that occurring during the first 10 hours after birth¹⁰, but is now universally accepted as commencing more than 24 hours following birth and during the following six weeks^{11,12}. The reported secondary PPH 1.45% in this study is slightly higher to rates reported in the past 40 years 0.8%⁹, 1.3%¹³. The principal cause of secondary PPH is retained bits (66.07%) comparing with other study that was 30%¹⁴.

The mean interval of secondary PPH around 1-15 days, not very different from other study that was 13.4±10.8 days. The interval ranges from 7-14 days for most studies¹⁴. Pelage et al found a mean of 16.3±11.6 days¹⁵. But reported by others women presented with secondary PPH usually starts pervaginal bleeding during the 2nd postpartum week and largest proportion during the third weeks^{3,17}. By this time, most women have been discharged from hospital¹⁸. Hoveidah et al found only 2% were still in hospital at that time. It indicates that their study showed secondary PPH which occurred in patients delivered at hospital.

In our study we found that women presenting with secondary PPH were delivered at home by untrained dai (55.36%) and 33.93% were delivered by caesarean section in peripheral clinics outside our hospital, 2 delivered by skilled birth attendant and 4 delivered by physician in our institution.

The management of women with secondary PPH remained unclear. The administration of ergometrin with or without oxytocin remained mainstay of initial treatment. Prostaglandin have been advocated^{19,20}.

Antibiotics are commonly given to treat superimposed

infection which was thought to precipitate the hemorrhage but evidence to support this thesis is limited⁹. In our study we treated all patients with both oxytocin and antibiotics.

In our study we found that 37(66.07%) patients needed exploration under general anaesthesia and 4(7.69%) patients needed total abdominal hysterectomy, one needed internal iliac artery ligation. Secondary PPH is associated with serious morbidity and even mortality. In our study 55 patients were recovered and discharged from hospital mostly after 0-7 days staying. No complication arose during surgical management. Only one patient had to be referred due to development of disseminated intravascular coagulation. In our study we have seen that all hysterectomies were done in secondary PPH after caesarean delivery.

Conclusion:

Secondary PPH is a complication of delivery that can result in severe morbidity and mortality. It has attracted little attention during the past years. The result presented here demonstrates that the incidence of secondary PPH is due to substandard obstetric care. So we have to give emphasis on hospital delivery. Proper asepsis and antiseptic preparation during caesarean section should be maintained in peripheral clinic. Caesarean section must be done by skilled personal.

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A Retrospective Study of Ectopic Pregnancy at a Tertiary Hospital

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Abstract:

Background: Ectopic pregnancy is a life threatening gynaecological emergency in early pregnancy and a significant cause of maternal morbidity and mortality in women of reproductive age. It occurs in variable presentation. The frequency of ectopic pregnancy is increasing throughout the globe from 0.5% in 1970 to 4% today. **Objective:** The aim of this study was to determine the incidence, clinical presentation, risk factors, treatment, morbidity and mortality associated with ectopic pregnancies in a tertiary health facility. **Method:** This retrospective study was conducted over a period of one year in the department of Obstetrics and Gynaecology in Cumilla Medical College Hospital, Bangladesh from January 2018 to December 2018. A total of 90 patients with ectopic pregnancies were analyzed regarding clinical presentations, risk factors, operative findings and treatment modality. The statistical package SPSS 20 was used for data analysis. The results were represented in simple percentages and tables. **Result:** The overall incidence of

ectopic pregnancy was 1.94%. The most affected age group was between 25-29 years. The most contributing risk factor was previous abortion. There were 66.66% cases of ruptured ectopic pregnancy and 13.33% of chronic ectopic pregnancy. Salpingectomy by open method was the mainstay of treatment. 3 patients were successfully managed by medical therapy. Post operative period of 87% cases were unsuccessful, 2 cases were admitted in ICU. One death was recorded. **Conclusion:** Ectopic pregnancy still remains a major gynaecological problem associated with significant mortality and morbidity. High index of suspicion is necessary for early diagnosis before its rupture as it gives an opportunity for conservative treatment. Early diagnosis and prompt conservative surgical or medical management not only reduces maternal morbidity and mortality but also helps in preserving fertility.

Key words: Ectopic pregnancy, ruptured ectopic, Haemoperitoneum, Salpingectomy.

(J Com Med Col Teachers Asso January 2020; 24(1): 39-43)

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Introduction:

Ectopic pregnancy is a life-threatening condition and is the major cause of maternal mortality and morbidity in the first trimester¹. It is an important cause of maternal morbidity and mortality in developing countries, where the majority of patients present late with rupture and hemodynamic compromise². It endangers the life of the woman and also her future fertility by causing damage to the fallopian tubes and/ or ovary³.

Ectopic pregnancy is defined as any intra or extra-uterine pregnancy in which the fertilized ovum implants at an aberrant site which is inconducive to its growth and development⁴.

Currently, the overall incidence of ectopic pregnancy is increasing worldwide⁵. The incidence varies from 0.67% in developed countries to 0.9%-4.38% in developing countries. The diagnosis of ectopic pregnancy has become more frequent during the last decades but the incidence of ruptured ectopic pregnancy has declined in western countries⁷. This decline is due to quantitative hCG measurements, minimally invasive surgery, transvaginal ultrasonography and laparoscopy, which is the gold standard⁷. Early diagnosis reduces the risk of tubal rupture and allows more conservative medical treatments to be employed⁸.

It is a challenge for the obstetricians due to its bizarre clinical presentation. Diagnosis requires a high index of suspicion on the classic triad of amenorrhoea, abdominal pain and vaginal bleeding which is not seen in all cases. Women may present with non-specific symptoms, unaware of an ongoing pregnancy or may even present with hemodynamic shock. More than 95% of ectopic pregnancies occur in the fallopian tube making the commonest site⁹. But implantation can occur also in ovaries, cervix and abdomen. Post abortal sepsis, pelvic inflammatory disease, puerperal sepsis, appendicitis, tubal/pelvic surgeries, conception following induction of ovulation have all been identified as major risk factors¹⁰. However, women with ectopic pregnancy frequently have no identifiable risk factors¹¹.

Management of the case depends on the clinical presentation, site of the ectopic and need for the future reproductive function. Management can be medical as well as surgical. Methotrexate is the first successfully used drug in clinical practice for unruptured ectopic pregnancy¹².

Methods: This retrospective study was conducted over a period of one year in the department of obstetrics and gynaecology in Cumilla Medical College Hospital, Bangladesh from January 2018 to December, 2018. It is a tertiary care center getting referrals from nearby cities and private hospitals. A total of 95 patients were admitted at our hospital through emergency and outpatient department. 90 cases among them were taken for analysis after excluding the 5 cases with incomplete records and missing case notes. The diagnosis of ectopic pregnancy was made mainly by history taking, general symptoms, abdominal and vaginal examination, laboratory (urine pregnancy test/ serum beta HCG) and radiological (ultrasound) investigation. These cases were traced through the registers kept in casualty, gynaecology wards and OT records. The labour room registers were used to determine the total number of deliveries during the period. The information of each patient was obtained from their case records kept in the medical record department. All the relevant demographic data was analyzed. Records were studied regarding age, parity and occupation, period of amenorrhoea at the time of diagnosis, presenting complaints like pain abdomen, bleeding per vagina or acute abdomen, any attack of syncope, backache or shoulder pain. Detail menstrual and obstetric history including history of infertility or previous ectopic pregnancy, history of previous surgery- dilation and curettage, tuboplasty, appendicectomy or any other abdominal surgery; history of pelvic inflammatory disease or tuberculosis and treatment received for it; family history of tuberculosis; method of contraception- IUCD, oral contraceptive pill or permanent method were analyzed. A

documentation of urine pregnancy test done, relevant ultrasound findings were also noted down. In chronic ectopic cases where urine pregnancy tests were negative, serum β -HCG were done. Some cases transvaginal USG were also done. All data were studied. Offered treatment options and important intra-operative findings, the outcome treatment, duration of stay in hospital after surgery were also studied. The morbidity and mortality associated with ectopic pregnancy was assessed. All the information were entered in a pre structured proforma. All the data was analyzed by percentage method.

Inclusion Criteria:

- All women with confirmed ectopic pregnancies.

Exclusion Criteria:

- All intra-uterine pregnancies.
- Whose medical records were incomplete or missing.

Results: Total number of pregnant women admitted during this period was 4880 and 95 cases of ectopic pregnancy were found among them. Therefore incidence of ectopic pregnancy was 1.94%. A total of 90 cases were taken for analysis after excluding the five cases with incomplete records and missing case notes.

It was found that the majority of ectopic pregnancies, occurred between age group 25-29 years (40%). 3rd Gravida accounted for the maximum number of cases (40%). Most of the cases were diagnosed at a gestational age of 6-8 weeks (61.11%). More than half of the cases (77.77%) had one or the other identifiable risk factor. Amongst the various risk factors studied either spontaneous or induced abortion was found in 33.33%. This was followed by a history of self-administered Medical termination (MT) Pill intake (11.11%).

Among women who had undergone surgeries 5.55% had previous caesarean section (LSCS) ,2.22% had tubal ligation and one patient had tuboplasty. Repeat ectopic pregnancies were seen 5.55% of cases. There was no identifiable risk factor in 30% of cases. Shock was present in 65% of cases. Abdominal pain was present in 80% of the cases. Amenorrhoea was present in 85% of the cases. Urine pregnancy test was positive in 90% cases. Serum Beta HCG was done in 10% cases. Ultrasonography was conclusive in 88 cases confirming the diagnosis except in 2 cases, which needed laparotomy to arrive at a final diagnosis. The most common site of tubal pregnancy was ampulla (66.66%). There was 4 cases of ovarian pregnancy. One was abdominal pregnancy. After opening the abdomen, tubal pregnancies of different acuity were found. Ruptured ectopic pregnancies were seen in 66.66% of the cases,

unruptured in 6.66%, tubal abortion in 7.77% and chronic ectopic in 13.33% of the cases. Hemoperitoneum was present in 83.33% of cases. As high as 83% of cases needed blood transfusion (1-2 units in 60% and more than 2 units in 20% of cases). Salpingectomy by open method (64.44%) remained the mainstay of treatment. 3 patients were given medical treatment and were successfully managed with a single dose methotrexate.

Salpingectomy along with contralateral tubectomy was performed in 24.44% of the cases as their family was complete. Salpingo-oophorectomy was done in 1 ovarian pregnancy and partial oophorectomy was done in other 3 ovarian pregnancy. 2 patients were admitted in ICU for anuria. There was one maternal death due to heart failure in the present study.

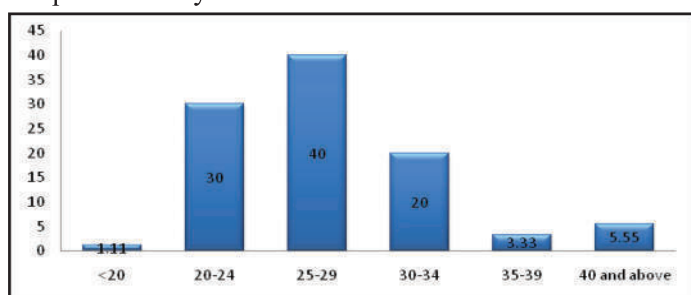


Figure 1: Patients age range (n=90)

Table-I: Parity (n=90)

| Gravida | Number of cases | Percentage(%) |
|---------|-----------------|---------------|
| G1 | 9 | 10 |
| G2 | 18 | 20 |
| G3 | 36 | 40 |
| G4≥ | 27 | 30 |

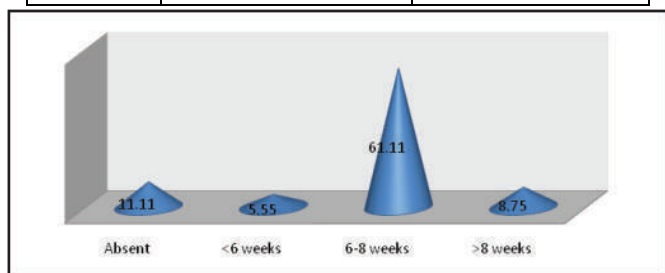


Figure 2: Duration of amenorrhoea

Table-II: Distribution of cases according to high risk factors

| High risk factors | Number of cases | Percentage (%) |
|-----------------------------|-----------------|----------------|
| Previous abortion and M.R. | 30 | 33.33 |
| MT Pill intake | 10 | 11.11 |
| Previous caesarean section | 5 | 5.55 |
| Previous ectopic pregnancy | 5 | 5.55 |
| Infertility | 6 | 6.66 |
| Tubal ligation | 2 | 2.22 |
| Ovulation induction | 2 | 2.22 |
| IUCD | 2 | 2.22 |
| Tuboplasty | 1 | 1.11 |
| No risk factor identifiable | 27 | 30 |

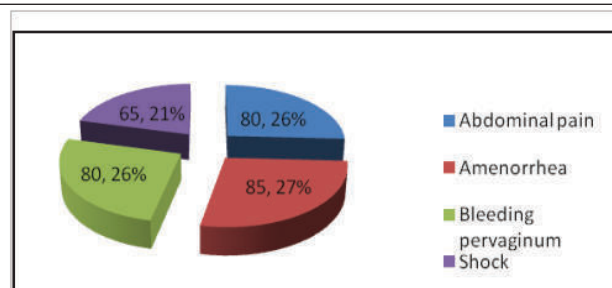


Figure 3: Clinical features.

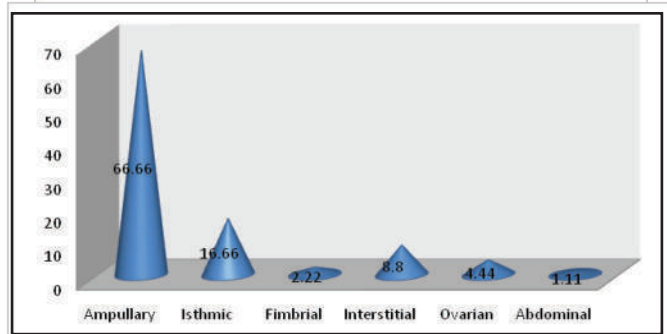


Figure 4: Distribution of cases according to site

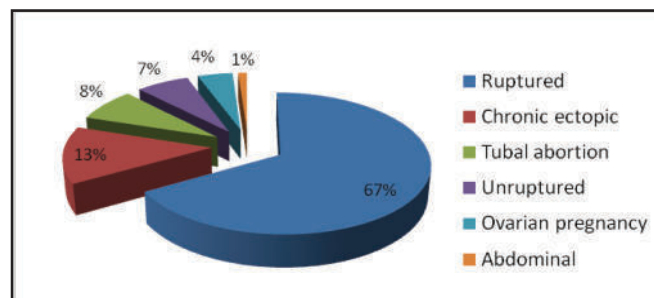


Figure-5: Distribution of cases according to preoperative findings.

Table III: Distribution of cases according to type of surgery done.

| Procedure | Number of cases | Percentage (%) |
|---|-----------------|----------------|
| Open Salpingectomy | 58 | 64.44 |
| Open Salpingectomy with contralateral tubectomy | 22 | 24.44 |
| salpingo-oophorectomy | 1 | 1.11 |
| Partial oophorectomy | 3 | 3.33 |
| Medical treatment | 3 | 3.33 |
| Milking | 1 | 1.11 |
| Expectant | 3 | 3.33 |

Discussion: Ectopic pregnancy is a life threatening emergency in obstetrics. It remains as an important contributor to maternal morbidity and mortality and fetal loss. Globally its incidence has been on the rise over the past decades, varies from 0.25-2.0% of all pregnancies worldwide¹³. In present study the incidence is significantly higher at 1.94%, than most of the other studies in developing countries, where it ranges from 0.9-4.38 %¹⁴.

In the present study majority of cases belonged to age group of 25-29 years (40%) similar to most of the studies from developing countries. Younger age group has high prevalence because they are more active sexually, predisposed to STI, PID and their sequelae. Studies in USA, however reported an increasing incidence of ectopic pregnancy with advancing age. The difference observed in our country might be owing to the fact that women here enter in to married life earlier and end reproduction earlier too. In the present study, maximum occurrence of ectopic gestation was seen predominantly in higher birth order. Some studies showed no specific relation to parity, but few reported that there is a increase in the incidence of ectopic pregnancy with rising parity¹⁵. In the ICMR multi-centric case control study of ectopic pregnancy, majority of women were young and had low parity¹⁶.

Most frequent gestational age at diagnosis was around 6-8 weeks in present study, which is similar to the observation made by Khaleeque et al¹⁷. Amongst the complaints at the time of presentation the classical triad of abdominal pain, amenorrhoea and vaginal bleeding was present in 80% of the cases. In their studies Wakankar et al and Jophy et al have also reported classic triad in 53.84% and 66% cases respectively¹⁸. Shock as a presenting emergency was observed in 65% of cases, which was comparable to studies by Maji et al and Begum S et al (62%)¹⁹. Amenorrhoea was present in 85% of the cases, which was also seen in studies of Jophy et al (78.5%) and Pal A et al (73%)²⁰. In the absence of amenorrhoea woman may be unaware of an ongoing pregnancy and hence may not anticipate a pregnancy associated complication. This subjects her to increased risk due to delayed diagnosis.

In current study history revealed presence of at least one or more high risk factor in 77.77% of cases. Amongst the risk factors studied, history of having previous abortion (induced and spontaneous) was the most common finding. (33.33%) Similar observations were made by Maji et al (26.1%) and Muffi et al (21.05%)¹⁸.

Significant number of cases (11,11%) had a history of MTP pill intaker and it is comparable to study of Shetty et al (9.7%)¹⁶. This highlights the urgent need to address this important issue. There is need to institute a prior ultrasound mandatory before medical abortion, and equally important, to push for bringing legislation, seeking a protocol on the sale of MTP pills over the counter.

Singh et al have reported prior tubal surgery as a common risk factor (40%)²¹. In present study history of tubal surgery, including tubal sterilization and tuboplasty, was seen in 3.33 cases. In present study 5.55% of the cases have had the history of previous ectopic pregnancy. Recurrence

of ectopic has been reported in various studies, ranging between 3.2% to 20%. So, such patients need to be educated about the risk of recurrences. Positive history of infertility was reported as high as 48% by Savitha Devi et al²². But in present study only 6.66% of cases had history of infertility. However, 30% of cases had no recognizable risk factor similar to study of Begum S et al (36%) and Rose et al (32.2%)¹⁷. Therefore, ectopic pregnancy should be suspected in every woman of reproductive age who presents with unexplained abdominal pain, irrespective of amenorrhoea and vaginal bleeding and whether risk factors are present or not.

Conclusion:

Ectopic pregnancy is still a major challenge in obstetrical practice because of its bizarre clinical presentation and associated with significant maternal mortality and morbidity. A high prevalence of unsafe abortions and pelvic inflammatory disease result in a high incidence of ectopic pregnancy. It can be diagnosed early by keeping a high index of suspicion. We had to manage most of our patients as surgical emergencies as they were brought late with ruptured ectopic pregnancy.

Recommendation:

To reduce the frequency of ruptured ectopic pregnancy, we need women consultation early in cases of suspected pregnancy to determine its location. Mass education regarding safe abortion practices and post abortal care should be promoted. Unsupervised usage of MTP pill intake should be condemned.

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Endoscopic Assessment and Evaluation of Larynx by Rigid Hopkin's Laryngeal Telescope-An Overview of Tertiary Level Medical College Hospital

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Abstract:

Background: Endoscopic assessment with a rigid laryngoscope has supplanted mirrors due to better optical resolution and higher sensitivity. Endoscope in the ENT clinic and department should now be considered the standard of care. The rigid Hopkin's rod system uses angled lenses and allows an excellent view of the larynx through a transoral approach. This is the favoured technique for otolaryngologist as the lens produces higher optical resolution for more detailed assessment of the patient. As a developing country, all investigation procedure is not available in the all tertiary level hospital of Bangladesh. This study may sensitize the otolaryngologist to provide the laryngeal rigid endoscopic procedure in the government hospital and private chamber. **Objectives:** To assess and evaluate the patient's probable diagnosis and management option who are attended in the ENT outdoor with laryngeal disorders as an office procedure. **Method:** A retrospective

study of 778 patients who were attended in the outdoor with laryngeal disorder from 20-02-2017 to 27-10-2019. The rigid Hopkin's rod system 70 and 90 degree both were used in this method. **Result:** The most frequent probable diagnosis was chronic laryngitis 367(47.17%), significant finding was absent in 201(25.83%) patients, but the laryngeal malignant growth was 58(7.46%). Others were Vocal cord polyp 53(6.8%), Vocal cord nodule 33(4.24%), Vocal cord palsy 30(3.86%), Reinke's edema 19(2.44%), Leukoplakia 10(1.29%), Ulcer 5(0.64%) and Cyst 2(0.26%). **Conclusion:** The rigid Hopkin's rods give extremely clear and magnified view resulting in successful visualization of disease condition. This result contributes information that may help the proper investigation and treatment. Proper treatment and prompt management can be reduced the morbidity and mortality rate of the patient suffering from various laryngeal disease specially carcinoma larynx.

(J Com Med Col Teachers Asso January 2020; 24(1): 44-48)

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Introduction:

The Otolaryngologist must have a systemic method to process symptoms and signs in order to achieve the correct diagnosis. Evaluation of the patient begins as soon as the patient enters the hospital room. Preliminary assessment of the patient can be made when patient come and start talking with doctor. The patient with most common laryngeal symptom is respiratory distress due to laryngeal malignant growth may be unable to speak few words before needing to rest, whereas with benign laryngeal disease the patient will converse without difficulty. Persistent or progressive dysphonia may suggest an organic lesion in the larynx compared to intermittent dysphonia that may suggest a functional disease. Visualization of the larynx can be performed via several methods. Special tools are required for laryngeal evaluation. Indirect laryngoscopy with a mirror a technique with an illustrious history¹, is still used as a method of visualizing the larynx. This examination method has several limitations including perceptual errors², difficulties in the user reliability recording the site of the lesion, learning curve in acquiring and maintaining the skill-set³ and a significant failure rate which is prior to the era of readily available flexible endoscopy, often mandated direct endoscopy under general anesthesia.

Endoscopic assessment either with a rigid or flexible laryngoscope, has supplanted mirrors due to better optical resolution and higher sensitivity⁴. Endoscope in the ENT clinic should now be considered the standard of care. The rigid Hopkin's rod system was 70- or 90- degree angled

lenses allow an excellent view of the larynx through a transoral approach. This is the favoured technique for laryngologist in the voice clinic as the wide rigid rod lens produces a higher optical resolution for more detailed assessment of phonation⁵. Rigid Telescope in built with Rigid laryngoscope has been widely used as an adjunct to endoscopic surgery of the larynx and has been reported to convey several advantages.⁶ Lore maintained the endolaryngeal visualization provided by the telescope was excellent.⁷ Benjamin reported that the telescope performed better than with the fiberoptic or the traditional laryngeal mirror.⁸ The rigid telescope has been recommended for the use of routine screening.⁹ Laryngeal Telescope are made with various angles of those the 70- and 90- degree telescopes are two common varieties. The different angle allows different physical approach vocal tract as a result each telescope angle is expected to allow preferential visualization of specific region without compromising patient comfort and tolerance. In this study both were used to visualized the larynx as a whole. Visualization was considered "successful" when the full larynx could be visualized in an examination was tolerable to subject.

Methods:

It is a retrospective study of 778 patients who were attended in the outdoor with laryngeal disorder specially hoarseness of voice from 20-02-2017 to 27-10-2019 in the Department of Otolaryngology and Head-Neck surgery, Cumilla Medical College Hospital Bangladesh. The patient and their attendant gave the informed consent about the examination procedure. Before examination we used the 10% to 15% xylocain spray in the oral cavity and oropharynx of the patient to prevent the gag reflex which mostly interfere with examination and proper view of larynx. Of the 778 patients 524 were male, and 254 were female. The lowest age of the patient was 12 years and highest age is 85 years. The mean age of the patient was 47.5 years. We used rigid telescope sandra USA which tip was immersed in savlon water antiseptic mixture of chlorhexidine gluconate and cetrimide to prevent fogging of the lens. The patient was sitting in a chair in front of the examiner. The scope was placed of the back of the tongue in the oropharynx after holding the patient tongue by another hand. At the back there is a prism that reflects lights 90 and 70 degree. The scope is a little more difficult for the patients, but it gives an extremely clear and magnified image of the larynx. A camera can be attached to each other of the scope and the examination can be recorded for documentation. All of the finding is wrote in the registrar biding notebook for future reference.

Results:

Out of 778 patients, 367(47.17%) were chronic laryngitiis which are near about fifty percent, structural abnormalities were absent in 201(25.83%) patients. But it is more

warning that malignant growth was found in 58 (7.46%) patients. Other premalignant conditions were leukoplakia 10 (1.29%) and suspicious lesion ulceration of vocal cords is 5 (0.64%). Benign structural abnormalities were vocal cords polyp 53 (6.81%), vocal cords nodule 33 (4.24%), vocal cords paralysis 30 (3.86%), reinke's edema 19 (2.44%) and intracordal cyst 2 (0.26%) (Table-1). Male patients were 534 (68.63%), and females 244 (31.37%). The ratio of male and female near 2:1 (Table-2). Benign neoplastic lesion are 103(13%) , malignant were 58 (8%), and non-neoplastic 617(79%). We include Leukoplakia and Ulceration of vocal cords in benign lesions as because after endoscopic biopsy for histopathology confirms the diagnosis (Fig-1). After assessment we evaluate the management option. It divided into two options. 617 (78.3%) patient were categorized for medical management and 224(21.7%) patients advised to get admitted in the hospital for operative procedures (Table-4).

Table-1: Name of the disease condition (n=778)

| SL | Disease | Number of Patients | Percentage |
|--------------|------------------------|--------------------|------------|
| 1 | Chronic Laryngitis | 367 | 47.17% |
| 2 | Normal Finding | 201 | 25.83% |
| 3 | Malignant Growth | 58 | 7.46% |
| 4 | Vocal Cord Polyp | 53 | 6.81% |
| 5 | Vocal Cord Nodule | 33 | 4.24% |
| 6 | Vocal Cord Paralysis | 30 | 3.86% |
| 7 | Reienke's Edema | 19 | 2.44% |
| 8 | Vocal Cord Leukoplakia | 10 | 1.29% |
| 9 | Vocal Cord Ulcer | 05 | 0.64% |
| 10 | Intracordal Cyst | 02 | 0.26% |
| Total | | 778 | 100 |

Table-2: Gender epidemiology (n=778)

| Sex | Number of Patients | Percentage |
|--------------|--------------------|-------------|
| Male | 534 | 68.63% |
| Female | 244 | 31.37% |
| Total | 778 | 100% |

Male and Female ratio is near 2:1.

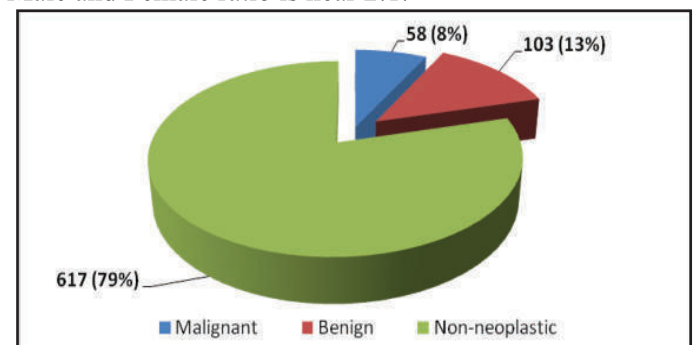


Fig-1: Percentage of Neoplastic and Non-neoplastic disease.

Table-3: Management Option (N-778)

| SL | Medical-Number of patient | Surgical-Number of Patient |
|--------------|--------------------------------|----------------------------------|
| 1 | Chronic Laryngitis-367(47.17%) | Malignant Growth-58(7.46%) |
| 2 | Normal Finding-201(25.83%) | Vocal Cord Polyp-53(6.81%) |
| 3 | Vocal Cord Paralysis-30(3.86%) | Vocal Cord Nodule-33(4.24%) |
| 4 | Reinke's Edema-19(2.44%) | Vocal Cord Leukoplakia-10(1.29%) |
| 5 | | Vocal Cord Ulcer-05(0.64%) |
| 6 | | Intracordal Cyst-02(0.26%) |
| Total | 617(73.30%) | 161(26.70%) |

Discussion:

Chronic laryngitis the most frequent disease conditions of laryngeal disorders in our study. The high prevalence of the main etiological factor associated with chronic laryngitis namely smoking, voice abuse and reflux disease are common in our people and the management of this condition being challenging in relation to both diagnosis and efficacy of treatment. In 1976, Stell and Mc Loughlin commenced that infection of upper and lower respiratory tract was of significance.¹⁰ As a developing country the industrialization causes many types of occupational scope which also associated with environmental influence on the quality of the air or the fumes inhaled or how the voice might be used for, example, in the presence of background noise. This has been supported by various case series of the relationship between occupation and chronic laryngitis; with excess noise of work,¹¹ asbestos worker,^{12,13} cement workers,¹⁴ solvents and shoe workers,¹⁵ hairdressing,¹⁶ glass blowers,¹⁷. The association between the remainder of the respiratory tract and the larynx and possible concurrent etiologies have been highlighted in reports relation to allergy.¹⁸ The relationship between gastro-esophageal reflux or laryngo-pharyngeal reflux disease in chronic laryngitis laryngeal dysplasia has been widely debated for many years.¹⁹ From a practical perspective however a high number of patients with chronic laryngitis will be smokers and as such will be exposed to the carcinogenic effects of smoking. It is clear therefore that a proportion of these patients who will have been diagnosed initially as having chronic laryngitis will progress to carcinoma. Without structural change hoarseness of voice may be multifactorial and sometime may be physiological. So conservative management is thought for that. Laryngeal cancer is eighteen most common cancer in UK. The incidence is higher in man than woman. There are significant variations in incidence in worldwide.²⁰ Tobacco smoking and alcohol are the main risk factor for laryngeal cancer and their effect are synergistic.²¹ Some recent study shows that the population attributable risk is multiplicative and is 89% for laryngeal cancer almost half due to tobacco alone and half due to tobacco and alcohol combined and a small percentage due to alcohol alone.²² A true vocal cords polyp is a benign swelling of greater than 3 mm size arises from the free edge of the vocal cords.²³ It is claimed that polyps are most common benign structural abnormality that causes hoarseness and affect man more than woman which is

reflecting our study. A large proportion of patients with polyps also smoker, cigarette smoking can cause injury to the vocal cords leading to hyaline degeneration in polyps.²⁴ Vocal cords nodule are small bilateral swelling less than 3 mm in size that developed the free edge of the vocal folds at approximately mid-membranous portion. In some cases particularly in singer's they may be smaller, more pointed and white in colour reflecting a more superficial response to trauma. The exact incidence and prevalence of nodules in a general population isn't known, but various population studies nodules have been shown to be the cause of persistent hoarseness in just under 25% of children and in 6% of adult with voice problem.²⁵ The etiology of vocal nodules isn't known but traditionally they are thought to be due to voice overuse. Voice abuse is characterized by force voice production due to strain in the neck and shoulder region producing a harsh quality to the voice.²⁶ The vocal folds are thought to impact on each other in such a way that the repeated trauma of the mid-membranous portion leads to localized swelling and epithelial thickening, shearing forces may be important and whiplash hypothesis has been proposed.²⁷ Vocal cords paralysis is common symptoms of the disease which can be originated from laryngeal nerve paralysis following surgical procedures,²⁸ Post-anesthetic complication,²⁹ or neurologic disease.³⁰ Laryngeal nerve paralysis of the abductors often lead paramedian position of the vocal cords. Symptoms include hoarseness, dysphonia, dyspnea and aspiration.³¹ Failure in the movement of the vocal cords can also be due to mechanical fixation.³² Malignant invasion to vagus nerve or recurrent laryngeal nerve invasion of malignant neoplasm can be generated by the thyroid neoplasm, lung cancer, esophageal carcinoma and mediastinal metastasis.³³ Reinke's edema is a term used to describe the vocal cords when they become chronically and irreversibly swollen, other terms for this condition include : 1. Polypoidal vocal cord. 2. Chronic edema of vocal folds. 3. Pseudomyxomatous laryngitis. 4. Smokers larynx. Leukoplakia is the appearance of white plaques on vocal cords which can be confluent or patchy. The management is by suspension microlaryngoscopy and surgical excision for histopathology due to it is precancerous condition. Vocal cords ulcer may be due to chronic specific inflammation like tuberculosis and syphilis or due to malignant lesion. The condition is rare in specific infection. If timely not treated there will be the effects of chronic inflammation with stenosis and vocal cord fixation.³⁴ Intracordal cyst is a cystic lesion which filled clear fluid having clear fluid having an appearance similar to that of blister. It is a localized Reinke's edema which may indicate the present of underlying paresis.³⁵ The exact etiology isn't known but it is due to phono-trauma. The initial management is behavioural therapy. Surgical excision might be necessary in case that don't resolved with speech therapy.³⁶

Conclusion:

The rigid endoscopic tele laryngoscopy are available for accurate and safe examination and assessment of laryngeal disease condition. The Otolaryngologist use this method to process symptom and sign in order to achieve the correct diagnosis. Successful visualization of disease condition helps the proper investigation procedure to confirm the treatment option. Proper treatment and proper management can be reduced the morbidity and mortality rate of the patient suffering from various laryngeal disease specially carcinoma larynx.

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Sociodemographic Pattern and Associated Factors of Preterm Labour

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Abstract:

Background: Preterm birth is the leading cause of neonatal mortality and morbidity. The prevalence of premature birth widely varies and ranges between 5-10%. Necessary efforts are required to make to prevent or inhibit premature labour. **Objective:** Our aim is to observe the sociodemographic pattern of mother having preterm labour and to detect the associated risk factors of preterm labour. **Methods:** This is a prospective study carried out in the department of Obstetrics and Gynaecology, Institute of Child and Mother Health, Dhaka during January 2018 to January 2019. One hundred patients were taken. A preset data form including sociodemographic and other risk variables of preterm labour were filled in for every subjects. **Result:** Study showed 60% patients were house wife, 60% were less than twenty years of age (15-20 years), 70% had very low family

income (<30,000 annually income) and 40% were illiterate among preterm birth mothers. Risk association was found between preterm birth patients with mid arm circumference below 24cm (odds ratio OR 1.77), Less frequent antenatal checkup below four visits (OR 4.0), history of previous preterm labour (OR 6.68), anaemia (OR 10.2) and Urinary tract infections (OR 4.3). Few medical conditions also showed risk association with preterm birth. **Conclusion:** Malnutrition, low socio-economic standards, infections, less antenatal check up and history of previous preterm birth are risk factors of preterm labour.

Key words: Preterm labour, Sociodemographic factor, risk factor

(J Com Med Col Teachers Asso January 2020; 24(1): 49-52)

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Introduction:

Preterm birth is defined as delivery of a baby before 37 completed weeks of pregnancy. Preterm labour is defined as labour occurring after 28 weeks but before 37 weeks of gestation. Preterm labour may be defined as the presence of uterine contractions of sufficient frequency and intensity to effect progressive effacement and dilatation of the cervix prior to term gestation (between 28 and 37 weeks). Preterm labour precedes almost half of preterm births and preterm birth occurs in approximately 12% of pregnancies and is the leading cause of neonatal mortality and morbidity.¹ The prevalence of premature birth widely varies and ranges between 5-10%.² The rate of preterm birth prior to 32 weeks has remained relatively stable at 1-2%.¹ About one quarter of preterm births are elective deliveries-usually for preeclampsia, intrauterine growth retardation or maternal distress. The remainder one due to preterm labour and delivery. Preterm birth causes 75% of neonatal deaths.³ The care of premature and immature infants is costly. Thus every effort is required to make to prevent or inhibit premature labour. Labour is a complex process involving many factors. Four different pathways have been identified that can result in preterm birth and have considerable evidences: Precocious fetal endocrine activation, uterine over distension, decidual bleeding, intrauterine inflammation/infection, drug abuse, smoking and alcohol consumption.^{2,4} Risk factors for preterm birth include demographic characteristics, behavioral factors, and history of previous preterm birth. Demographic factors for

preterm labour include nonwhite race, extremes of maternal age (<17 y or >35 y), low socioeconomic status, and low pre-pregnancy weight. Extreme reproductive ages are more susceptible for the development of preterm birth.^{5,6,7} A number of factors have been identified that are linked to a higher risk of preterm birth. Factors are low socioeconomic condition, single motherhood, less pregnancy interval, previous induced abortion, poor nutritional status, obesity, diabetes, hypertension, hard labour, family history of preterm birth and with history of previous preterm birth.^{8,9} Maternal medical conditions of preterm birth are high blood pressure, preclampsia, maternal diabetes, asthma, thyroid disease and heart disease. Short cervix and uterine malformation cause preterm labour.¹⁰ There is no available data regarding sociodemographic pattern and associated risk factors of preterm labour in developing countries like Bangladesh. The aim of this study is to observe the variations of sociodemographic pattern of mother having preterm labour and detect the associated risk factors of preterm labour.

Method:

This cross sectional study was conducted in the department of Obstetrics and Gynaecology, Institute of Child and Mother Health, Matuail, Dhaka during the period of January 2018 to January 2019. Written consent was taken from all the patients. 100 patients were recruited for this study. Fifty patients between 28-37 weeks gestation were included in this study. Fifty patients were full term pregnant with labour pain. Elective deliveries and patients having uterine contractions having APH with active bleeding were excluded from this study. All patients did their baseline investigations. All cases were interviewed face-to-face using a specially designed questionnaire. A preset data form including sociodemographic and other risk variables of preterm labour were filled in for every subjects. Data were processed and analyzed using computer software SPSS (Statistical package for social science). OR (odds ratio) is detected to evaluate the risk measurement in this cross sectional study. OR (odds ratio) > 1 indicates risk of disease is highly expected in exposed group than unexposed group.

Results:

A high-risk association was observed between preterm labour and pregnancy at young ages. A significant risk association was present between preterm birth and malnutrition, low socio-economic status, ill health, illiteracy. Previous preterm labour, less frequent antenatal check up and few medical conditions influence preterm birth..

Table 1: Sociodemographic Factors (Total N-100)

| Variables | | Preterm labour | | Full term labour | |
|------------------------------------|-----------|----------------|---------|------------------|---------|
| | | Frequency | Percent | Frequency | Percent |
| Age years | 15-20 | 30 | 60% | 10 | 20% |
| | 21-30 | 5 | 10% | 35 | 70% |
| | 31-45 | 15 | 30% | 5 | 10% |
| Yearly family income taka thousand | <30 | 35 | 70% | 20 | 40% |
| | 30-60 | 10 | 20% | 15 | 30% |
| | >60 | 5 | 10% | 15 | 30% |
| Occupation | H wife | 30 | 60% | 30 | 60% |
| | service | 05 | 10% | 15 | 30% |
| | worker | 15 | 30% | 5 | 10% |
| Education | primary | 15 | 30% | 20 | 40% |
| | secondary | 15 | 30% | 15 | 30% |
| | none | 20 | 40% | 15 | 30% |

Table 2. Associated Risk Factors (Total N-100)

| Preterm Labour | | | | OR (odds ratio) |
|---------------------------------------|---------|-----|----|-----------------|
| | | yes | no | |
| Mid Upper Arm Circumference (MUAC) cm | <24 | 32 | 25 | 1.77 |
| | >24 | 18 | 25 | |
| Gravida | primi | 26 | 27 | 0.9 |
| | multi | 24 | 23 | |
| Pre-eclamsic Toxaemia | present | 02 | 1 | 2.04 |
| | absent | 48 | 50 | |
| IUGR | present | 01 | 0 | |
| | absent | 49 | 50 | |
| Anaemia | present | 48 | 35 | 10.2 |
| | absent | 02 | 15 | |
| UTI | present | 26 | 10 | 4.3 |
| | absent | 24 | 40 | |
| DM | present | 3 | 1 | 3.12 |
| | absent | 47 | 49 | |
| HTN | present | 02 | 1 | 2.04 |
| | absent | 48 | 49 | |
| Bronchial Asthma | present | 02 | 01 | 2.04 |
| | absent | 48 | 49 | |

Discussion:

In this study preterm birth is higher in groups of mothers (<20 years and > 30 years). A study in Chile also found high preterm birth in patients: < 18 years and >38 years of age.¹¹ Low socioeconomic condition, illiteracy and nutritional deficiency are interrelated and significantly influence preterm birth. Seventy percent of preterm birth had very low family income in this study and that is consistent with a study that showed 60% of preterm birth occur in low and middle income family.^{12,13} Mid upper arm circumference (MUAC<24 cm) and anaemia increase risk of preterm birth (OR odds ratio 1.77, 10.2 respectively) in our study. Anaemia (AOR-2.9, 95% CI 1.3-6.6) and maternal mid upper arm circumference less than 24 cm (AOR-2.6, 95% CI 1.1-6.1) were found to be statistically significant of a study done by Mekonen et al.¹² Malnutrition is frequent among women and may be directly linked to lack of meat consumption.^{14,15} Meat is also considered to be an essential source of iron and iron deficiency anemia has been regarded as a risk factor for preterm labour.¹⁶ Moreover high-risk pregnancies have been significantly more prevalent among malnourished women.¹⁷ Primi and multi gravida did not show any statistically significant risk (OR 0.9) to develop preterm birth in this study. But Wagura P showed that Parity also influenced preterm birth (P= < 0.05).¹⁸ Previous preterm birth history is significantly associated with current preterm labour in this study (OR 6.68). E R Pschirren et al. also found a significant association of previous preterm birth history (RR 2.62, 95% CI 1.99-3.44) with preterm labour in their study.¹⁹ In this study, mothers with less than four times ANC showed a strong associated risk factor (OR 4.0) This study is consistent with a study of Mekonen D G et al. who found mothers with less than four times ANC visit were 3 times at risk to give preterm birth than those with four and more visits (AOR- 3.095% CI 1.6-5.9).¹² Urinary tract infection became an important risk of preterm birth (OR 4.3) Wagura P et al found a significant association of preterm birth (P < 0.05).¹¹ In this study, DM has come out as one of the strong risk factors of preterm birth which is consistent with a study done by Kock K I et al. and found women with DM tended significantly more often to preterm birth (P=0.002).²⁰ Diarrheal illness is also a statistically significant risk factor of preterm birth in this study (OR 5.4). But Kira L Newman et al found preterm birth incidence did not substantially differ between women with diarrhea during pregnancy and those without (RR 0.9295% CI 0.72-1.17).²¹ The difference of those two studies may be due to small sample size. In our country, diarrheal illness is sometimes associated with nutritional deficiency that explained the association of preterm birth with diarrheal illness in this study.

Conclusion:

Pregnant women are particularly vulnerable group. They face the consequences of poor nutrition, poverty, illiteracy and infections. All these risk factors which have been found to be associated with preterm labour are modifiable. Optimum antenatal check up and treatment of associated medical illness can prevent preterm birth in our country.

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Knowledge, Attitudes and Practices Among the Patients of Chronic Hepatitis B Virus (HBV) Infection Attending in Comilla Medical College Hospital

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Abstract:

Background: Hepatitis B virus (HBV) is the leading cause of chronic hepatitis, cirrhosis of liver and hepatocellular carcinoma (HCC) worldwide. This study was conducted to assess the knowledge, attitudes and practices (KAP) of patients with chronic HBV infection. **Objectives:** To determine awareness among the patients of chronic HBV infection and to stimulate the preventive and control measures of HBV infection in patients attending in a tertiary care hospital. **Method:** This cross-sectional study was done on 100 patients in Department of Medicine, Gastroenterology and Hepatology, Cumilla Medical College Hospital. KAP was assessed by using a questionnaire on one to one basis. One way ANOVA, student independent t-test and Chi-square test was done to test the association of socio-demographic and clinical data with study variables and p value ≤ 0.05 were considered statistically significant. Spearman's rank correlation coefficient was used to evaluate the correlations between knowledge, attitudes and practices and p value < 0.01 was taken as significant for correlation analysis. **Result:** The most prevalent age group was between 31 and 39 years (31%) with mean age 40.28 ± 17.21 . Most of the patients were male (74%), majority were married (78%), Muslim (88%), lived in rural area (68%) and had lower socio-economic status (67%). About one-fourth patients (24%) had primary level educational qualification and only few were graduate (8%) and postgraduate (3%). Half of the patients had more than three years duration after diagnosis

of HBV (50%), and majority of them had not received any therapy for hepatitis B (87%) and one-fourth patients (26%) had cirrhosis of liver. The mean knowledge score of the patients was $9.64/22 (\pm 2.2)$. Overall the patients had negative attitudes towards hepatitis B with mean score of $3.78/8 (\pm 1.64)$. The patients also had poor practice towards hepatitis B with mean score of $2.76/8 (\pm 1.1)$. Majority of the patients were feeling worried since diagnosis of hepatitis B (78%) and were worrying of spreading HBV to family members and friends (74%). The scores of knowledge, attitude and practice were significantly higher among patients with higher level education attainment, employed in services, higher socioeconomic status and had longer duration of chronic HBV diagnosis (p value ≤ 0.05). Cirrhosis of liver was associated with significant negative lifestyle practices like avoiding exercise/heavy work, showing restriction in food choice, not sharing eating and drinking utensils with others. There was significant correlations between knowledge-attitude ($r=0.909$, $p < 0.0001$) knowledge-practice ($r=0.904$, $p < 0.0001$) and attitude-practice ($r=0.948$, $p < 0.0001$). **Conclusion:** The findings highlight poor knowledge, misconceptions, negative attitudes, social stigma and poor practices that still exist among the HBV patients. More patients and public education about HBV and its prevention are essential to increase awareness and to demystify the disease.

Keywords: HBV (Hepatitis B Virus), KAP (Knowledge, Attitude and Practice).

(J Com Med Col Teachers Asso January 2020; 24(1): 53-59)

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Introduction:

Hepatitis B is a serious and common infectious disease of the liver. The World Health Organization (WHO) in 2009 reported Hepatitis B to infect nearly 2 billion people around the globe. Furthermore, out of those 2 billion, 350 million suffered from chronic infection and an estimated three quarters of these individuals are from the Asia-Pacific region¹⁻⁴. Hepatitis B is a 'disease of priority,' with an incessant increase in detection of new cases worldwide⁵. About 50 million new cases of HBV infection are diagnosed annually, 5-10% of adults and up to 90% of infants are become chronically infected. Chronic HBV infection is the leading cause of cirrhosis and hepatocellular carcinoma worldwide^{6,7} and an estimated 15–40% of chronic HBV carriers are susceptible to develop these complications^{8,9}. Hepatitis B is a confronting ailment and results in 0.6 million deaths annually^{10,11}. Despite the high prevalence of HBV infection amongst Asians, a number of studies have consistently shown a lack of general knowledge of HBV infection in this population, especially with regard to the modes of transmission and complications of chronic HBV infection such as cirrhosis, liver failure and hepatocellular carcinoma¹²⁻¹⁶. Studies revealed that patients who were newly diagnosed with HBV were anxious due to lack of background knowledge on HBV and the perceived stigma associated with the disease. They want to get more information on HBV and its treatment options from their healthcare providers¹⁷.

Several studies shows misperceptions in patients with chronic HBV, such as early stage of liver cancer would cause symptoms, HBV transmitted through sharing of food or eating and drinking utensils and consuming seafood¹⁸⁻²⁰. There are also misconceptions that severe liver disease due to HBV would show symptoms, may contribute to unwillingness of patients to attend regular medical follow up²¹, and this would cause deterioration of the disease condition as treatment is delayed.

To develop awareness about hepatitis B & C different organizations were working for a long times. In 2007 the World Hepatitis Alliance was formed to unite worldwide hepatitis B and hepatitis C patient groups and bring more public and political attention to the issue of viral hepatitis. The Alliance's members had observed "First World Hepatitis Day" in May 19, 2008 and launched with the campaign slogan 'Am I Number 12?'. 'Am I Number 12?' referred to the worldwide statistic that 1 in 12 people are living with viral hepatitis B or hepatitis C. Later in 63rd World Health Assembly in May 2010, World Hepatitis Day was given global endorsement as the primary focus for national and international awareness-raising efforts and the date was changed to July 28 (in honor of Nobel Laureate Prof. Blumberg, discoverer of the hepatitis B virus, who celebrates his birthday on that date).

Knowledge, attitude, and practice (KAP) surveys are representative of a specific population to collect information on what is known, believed and done in relation to a particular topic, and are the most frequently used study tool in health-seeking behavior research²². Knowledge is usually assessed in order to see how far community knowledge corresponds to biomedical concepts²³. Patient's knowledge of symptoms, severity, monitoring and treatment options are essential for appropriate self-care, adherence to follow up, early recognition of serious signs and seeking timely treatment²⁴. People reported knowledge which deviates from biomedical concepts is usually termed as 'beliefs'²⁵. Attitude has been defined as "a learned predisposition to think, feel and act in a particular way towards a given object or class of objects"²⁶. As such, attitude is a product of a complex interaction of beliefs, feelings, and values. Practices in KAP surveys usually enquire about the use of preventive measures or different health care options.

In the present scenario, there is a need to assess the knowledge, attitudes and practices status of chronic HBV patients towards their illness so that the information can be used to develop a better and need based program for the society. By understanding patients' knowledge, attitudes, and lifestyle practices following diagnoses, campaign for education of the patients and their family to better understand the illness will possible and it help them to lead normal life. In addition, modifying patients' attitudes and behavior could promote disease monitoring of HBV patients by the physicians for enhancing adherence to follow up which will helpful for early detection and treatment of disease reactivation and complications. Therefore, this study was aimed to determine the knowledge, attitudes and lifestyle practices of our patients who have been diagnosed with chronic HBV.

Methods:

This cross-sectional study was done in Department of Medicine, Gastroenterology and Hepatology, Cumilla Medical College Hospital, Cumilla from 1st July to 31st December, 2013. One hundred patients (74 males and 26 females) with chronic HBV infection who fulfill the inclusion criteria were included in this study after taking written informed consent. Random sampling technique was used for data collection. Data were collected by face to face interview by using preformed data collection sheet (questionnaire) which was developed based on literature review. Information was collected from history, clinical examination and relevant investigations. A conceptual framework was developed to identify independent variables (e.g. the participant's socio-demographic details, HBV disease profile, status of HBV treatment) which might influence the dependent variables (e.g. knowledge, attitudes, practices). The knowledge section of the

questionnaire tested on four aspects: General knowledge of HBV (5 items); Symptoms of hepatitis B (5 items); Modes of transmission (10 items) and Knowledge about prevention and treatment (2 items). Participants' attitudes towards HBV were also examined by taking their opinions on eight statements. Participants' lifestyle practices after being diagnosed with HBV were also examined with eight items regarding daily activities, food habit and precaution for prevention and treatment for himself/herself, family members and friends.

Data analysis:

All data were recorded systemically and quantitative data were expressed as mean and standard deviation and qualitative data as frequency distribution and percentage. Statistical analysis was done by using SPSS version 17.0. Chi-square test was used for categorical data wherever comparisons were needed between the two groups, or between two categories in the same group. One way ANOVA, student independent t-test was done to test the association between socio-demographic and clinical data with knowledge, attitudes and practices. Variations of p value ≤0.05 were considered statistically significant. Spearman's rank correlation coefficient was used to evaluate the relationship between the study variables (knowledge, attitudes and practices). Correlations between knowledge, attitudes and practices were interpreted according to value of correlation co-efficient (r): 0–0.25 = weak correlation, 0.25–0.5 = fair correlation, 0.5– 0.75 = good correlation and >0.75 = excellent correlation. p value <0.01 was taken as significant for correlation analysis.

Ethical Issue:

Prior to initiation of this study, the research protocol was approved by Bangladesh College of physicians and surgeons (BCPS). The aims and objectives of study were explained to the patients in easily understandable local language and then informed consent was taken from each participants.

Results:

Table-I: Distribution of the patients according to socio-demographic characteristics

| Variable | | Number | (%) | Mean (±sd) |
|-------------|----------|--------|-----|--------------|
| Age (Years) | <30 | 31 | 31 | 21.70 (4.84) |
| | 30-39 | 22 | 22 | 34.23 (3.01) |
| | 40-49 | 18 | 18 | 44.17 (2.77) |
| | 50-59 | 14 | 14 | 54.29 (3.00) |
| | ≥60 | 15 | 15 | 69.80 (6.49) |
| | Sex | Male | 74 | 74 |
| Female | | 26 | 26 | -- |
| Occupation | Service | 14 | 14 | |
| | Business | 11 | 11 | |
| | Farmer | 24 | 24 | |
| | Student | 19 | 19 | |
| | | | | |

| | | | | |
|----------------------|---------------|----|----|--|
| | Housewife | 21 | 21 | |
| | Unemployed | 05 | 05 | |
| | Others | 06 | 06 | |
| Residence | Rural | 68 | 68 | |
| | Urban | 32 | 32 | |
| Level of education | Primary | 12 | 12 | |
| | Secondary | 24 | 24 | |
| | SSC | 18 | 18 | |
| | HSC | 15 | 15 | |
| | Graduate | 08 | 08 | |
| | Post graduate | 03 | 03 | |
| Socioeconomic status | Lower | 67 | 67 | |
| | Middle | 21 | 21 | |
| | Higher | 12 | 12 | |

Table-II: Assessment of knowledge: patients having correct answers of knowledge items on Hepatitis B (n=100)

| Knowledge of Hepatitis B (correct answer) | Number | (%) |
|---|--------|-----|
| General statements | | |
| Hepatitis B is a Liver disease (Yes) | 68 | 68 |
| Hepatitis B is a viral infection (Yes) | 18 | 18 |
| Can cause chronic infection (Yes) | 29 | 29 |
| Can cause Liver failure (Yes) | 21 | 21 |
| Can cause Liver cancer (Yes) | 11 | 11 |
| Knowledge about symptoms | | |
| Can be asymptomatic (Yes) | 36 | 36 |
| Can cause Jaundice (Yes) | 85 | 85 |
| Can cause tiredness(Yes) | 70 | 70 |
| Can cause anorexia, nausea, and vomiting (Yes) | 64 | 64 |
| Can cause abdominal discomfort, pain and distension (Yes) | 30 | 30 |
| Knowledge about modes of transmission of HBV | | |
| Sharing of needles (Yes) | 55 | 55 |
| Sexual intercourse (Yes) | 24 | 24 |
| Perinatal transmission (Yes) | 08 | 08 |
| Blood transfusion (Yes) | 92 | 92 |
| Contact with open wound (Yes) | 65 | 65 |
| Sharing personal items- razors, tooth-brushes (Yes) | 62 | 62 |
| Can be transmitted from barbar (Yes) | 14 | 14 |
| Can be transmitted from body piercing (e.g: ear and nose pricking)(Yes) | 08 | 08 |
| Sharing eating and drinking utensils (No) | 32 | 32 |
| Casual contacts (e.g: Hand-shaking and hugging) (No) | 48 | 48 |
| Knowledge about prevention and treatment of HBV | | |
| Can be prevented with available vaccine (Yes) | 42 | 42 |
| Can be treated in our country (Yes) | 40 | 40 |

Table-III: Association between mean knowledge scores and socio-demographic characteristics of the patients (n= 100)

| Characteristics | Number | Mean knowledge score (±sd) | Test value | p value |
|---------------------------------|--------------|----------------------------|------------|---------|
| Age (Years) | <30 | 8.90 (2.12) | F =1.767 | 0.142* |
| | 30-39 | 9.91 (2.11) | | |
| | 40-49 | 9.67 (2.11) | | |
| | 50-59 | 9.36 (2.65) | | |
| | ≥60 | 8.20 (1.90) | | |
| | | | | |
| Education | Illiterate | 6.42 (0.69) | F =72.781 | <0.001* |
| | Primary | 7.29 (0.95) | | |
| | Secondary | 8.95 (1.00) | | |
| | SSC | 10.11 (1.02) | | |
| | HSC | 11.33 (1.04) | | |
| | Graduate | 12.38 (0.74) | | |
| | Postgraduate | 13.33 (0.57) | | |
| Occupation | Service | 11.86 (1.35) | F= 10.204 | <0.001* |
| | Business | 10.18 (1.40) | | |
| | Farmer | 7.20 (1.10) | | |
| | Student | 9.94 (1.65) | | |
| | Housewife | 8.95 (2.14) | | |
| | Unemployed | 8.20 (1.92) | | |
| | Others | 8.83 (2.32) | | |
| Duration after diagnosis (Year) | < 1 | 8.39 (2.08) | F= 4.362 | 0.015* |
| | 1-3 | 9.06 (1.95) | | |
| | >3 | 9.71 (2.21) | | |

* One way ANOVA, †Student independent t-test was done to measure level of significance. Significant different at $p \leq 0.05$.

Table-IV: Assessment of attitude: patients showing different attitudes towards hepatitis B (n= 100)

| Attitudes towards Hepatitis B | Yes | | No | |
|---|-----|----|----|----|
| | N | % | N | % |
| Worrying of spreading HBV to family and friends | 74 | 74 | 26 | 26 |
| Feeling worried since diagnosis of hepatitis B | 78 | 78 | 22 | 22 |
| Embarrassed to reveal diagnosis of hepatitis B | 52 | 52 | 48 | 48 |
| Should not involve in food making/processing and handling | 68 | 68 | 32 | 32 |
| Not able to enjoy normal day to day activities since diagnosis of hepatitis B | 58 | 58 | 42 | 42 |
| Embarrassed to inform hepatitis B status to doctors before getting treatment | 05 | 05 | 95 | 95 |
| Believe that hepatitis B patient will die in short time | 36 | 36 | 64 | 64 |
| Not willing to reveal hepatitis B status to relatives | 56 | 56 | 44 | 44 |

Table-V: Association between mean attitudes scores and socio-demographic characteristics of the patients (n= 100)

| Characteristics | Number | Mean attitude score (±sd) | Test value | p value | |
|---------------------------------|--------------|---------------------------|-------------|-----------|---------|
| Age (Years) | <30 | 31 | 3.06 (1.34) | F= 2.449 | 0.051* |
| | 30-39 | 22 | 4.06 (1.48) | | |
| | 40-49 | 18 | 3.94 (1.80) | | |
| | 50-59 | 14 | 4.35 (1.82) | | |
| | ≥60 | 15 | 4.20 (1.74) | | |
| Education | Illiterate | 12 | 2.58 (1.00) | F= 12.284 | ≤0.001* |
| | Primary | 24 | 2.79 (1.25) | | |
| | Secondary | 20 | 3.15 (1.04) | | |
| | SSC | 18 | 4.44 (1.20) | | |
| | HSC | 15 | 5.13 (1.51) | | |
| | Graduate | 08 | 5.00 (1.85) | | |
| | Postgraduate | 03 | 6.67 (1.53) | | |
| Occupation | Service | 14 | 5.36 (1.45) | F= 6.764 | ≤0.001* |
| | Business | 11 | 5.09 (1.58) | | |
| | Farmer | 24 | 2.75 (1.07) | | |
| | Student | 19 | 3.84 (0.76) | | |
| | Housewife | 21 | 3.38 (1.93) | | |
| | Unemployed | 05 | 3.60 (1.14) | | |
| | Others | 06 | 3.17 (1.47) | | |
| Duration after diagnosis (Year) | < 1 | 23 | 3.09 (1.53) | F= 7.144 | ≤0.001* |
| | 1-3 | 27 | 3.30 (1.68) | | |
| | >3 | 50 | 4.36 (1.47) | | |

* One way ANOVA, †Student independent t-test was done to measure level of significance. Significant different at $p \leq 0.05$.

Table-VI: Lifestyle practices among the patients with chronic hepatitis B after diagnosis (n = 100)

| Lifestyle practices after diagnosis | Yes | | No | |
|--|--------|-----|--------|-----|
| | N | (%) | N | (%) |
| Avoid exercise/ heavy work | 62 | 62 | 38 | 38 |
| Show restriction in food choice | 58 | 58 | 42 | 42 |
| Shared eating and drinking utensils | 48 | 48 | 52 | 52 |
| Used barrier method for sexual practices† | 06(80) | 08 | 72(80) | 92 |
| Did not engaged in blood donation | 100 | 100 | 00 | 00 |
| Did not shared personal items (razors, toothbrush) with others | 49 | 49 | 51 | 51 |
| Encouraged family members to undergo HBV screening | 24 | 24 | 76 | 76 |
| Encouraged friends and family members to take HBV vaccine | 16 | 16 | 84 | 84 |

†The number in the parenthesis indicates the patients who

were sexually active.

Table-VII: Association between mean practice scores and socio-demographic characteristics of the patients (n = 100)

| Characteristics | Number | Mean practice score (±sd) | Test value | p value | |
|---------------------------------|--------------|---------------------------|-------------|------------|---------|
| Age (Years) | <30 | 31 | 2.68 (1.28) | F = 2.665 | 0.037* |
| | 30-39 | 22 | 4.00 (1.90) | | |
| | 40-49 | 18 | 3.50 (1.95) | | |
| | 50-59 | 14 | 3.29 (1.48) | | |
| | ≥60 | 15 | 2.80 (1.15) | | |
| Education | Illiterate | 12 | 1.75 (0.75) | F = 29.09 | ≤0.001* |
| | Primary | 24 | 1.95 (0.75) | | |
| | Secondary | 20 | 2.80 (1.01) | | |
| | SSC | 18 | 3.78 (0.73) | | |
| | HSC | 15 | 4.47 (1.25) | | |
| | Graduate | 08 | 5.50 (1.60) | | |
| | Postgraduate | 03 | 6.67 (1.53) | | |
| Occupation | Service | 14 | 4.64 (1.50) | F = 5.869 | ≤0.001* |
| | Business | 11 | 3.18 (1.94) | | |
| | Farmer | 24 | 2.25 (0.90) | | |
| | Student | 19 | 4.00 (1.29) | | |
| | Housewife | 21 | 2.67 (1.71) | | |
| | Unemployed | 05 | 3.00 (1.58) | | |
| | Others | 06 | 2.50 (1.05) | | |
| Socio-economic status | Lower class | 67 | 2.75 (1.20) | F = 12.520 | ≤0.001* |
| | Middle class | 21 | 3.86 (1.98) | | |
| | Higher class | 12 | 4.83 (1.85) | | |
| Duration after diagnosis (Year) | < 1 | 23 | 2.65 (1.58) | F = 2.815 | 0.065* |
| | 1-3 | 27 | 3.07 (1.75) | | |
| | >3 | 50 | 3.58 (1.54) | | |

* One way ANOVA, †Student independent t-test was done to measure level of significance. Significant different at $p \leq 0.05$.

Table-VIII: Correlation between knowledge, attitude and practice scores of the patients (n=100)

| Variable | Correlation coefficient (r) | p value* |
|---------------------|-----------------------------|----------|
| Knowledge- Attitude | 0.909 | <0.0001 |
| Knowledge- Practice | 0.904 | <0.0001 |
| Attitude- Practice | 0.948 | <0.0001 |

*Correlation significant at $p < 0.01$

Discussion:

Knowledge of HBV

This study found that there were poor knowledge on hepatitis B among patients with chronic HBV infection. The mean knowledge score was 9.22/22 (±2.2) indicating low level of knowledge towards hepatitis B. Only 18% could answer hepatitis B is a viral infection. Majority were not aware of the clinical consequences of HBV infection including chronic infection (29%), hepatic failure (21%) and hepatocellular carcinoma (11%). Majority had poor knowledge about transmission through sexual intercourse (24%), prenatal transmission (08%), from barber (14%)

and from body piercing (08%). A small percentage of respondents gathered knowledge on HBV transmission from family members, friends and finally healthcare providers. The study populations were found to have poorer knowledge compared to those in Singapore¹⁹, Chinese Canadians²¹ and Malaysia²⁷. Majority of the patients did not know that chronic HBV can remain asymptomatic with future development of liver cirrhosis and hepatocellular carcinoma^{19,21}. However, patients were aware of some of the symptoms of liver disease like jaundice, anorexia, nausea, vomiting and easy fatigue. The misperception of sharing eating and drinking utensils could transmit HBV seemed to prevail among patients of this study. This misperception is also reported in Asian HBV patients^{18, 19,21} and general public in Singapore, San Francisco²⁸ and Washington²⁹. Such misperceptions can evoke anxiety in individuals with HBV and may create a barrier in their social interaction for fear of transmitting the virus to others, fear of social rejection and sometime they feel guilty about hiding their health status³⁰. The knowledge scores were significantly higher among participants with high educational level attainment (graduate and postgraduate), employed in services, higher socioeconomic status and longer duration of diagnosis. In many studies, high educational level attainment has been reported to be associated with better HBV knowledge^{12,16,19}.

Attitudes towards HBV

An important feature of Health Belief Model is individuals' attitudes and beliefs responsible for particular health behavior³¹. In our study, overall the respondents had negative attitudes towards hepatitis B with mean score of 3.78/8 (± 1.64). Majority of the patients 78(78%) were feeling worried since diagnosis of hepatitis B and almost all of them 74(74%) were worrying of spreading HBV to family and friends and 68(68%) of them believed that they should not involve in food making, processing or handling. In addition, most patients also showed negative attitudes to reveal their disease status publicly because they are worried of their future. Participants reported feeling embarrassed to reveal their disease status to the relatives except close family members and healthcare providers. This may indicate that there is an attached stigma and fears of social rejection. A qualitative study revealed that fear of rejection and stigma at personal and community level is a barrier for those with HBV to disclose their disease status as the revelation would lead to segregation from relatives and community³². Two-third agreed that HBV patient had strong belief that they should not be involved in the food making, processing and handling. This may be attributed to the misconception that HBV could spread by food. The attitude scores were significantly higher among participants with higher level education attainment (HSC, graduate and postgraduate), employed in services, higher

socioeconomic status and had longer duration of HBV diagnosis.

Lifestyle practices towards HBV

Participants showed poor practice towards hepatitis B with mean score of 2.76/8 (± 1.1). The practice scores were significantly higher among participants with higher level education attainment (graduate and postgraduate), in 30-39 years age group, higher socioeconomic status, employed in services and student. Most of the participants particularly those were with cirrhosis of liver modified their lifestyles and adopted activities. More than half of the patients avoided exercise and heavy works 62(62%) due to tiredness, easy fatigability and inability to do heavy works. Many patients had showed restriction in food choice 58(58%) particularly avoided rich diet because of fear of indigestion. Some patient shows extra fascination for fruits, sweets (e.g. sugarcane) particularly those are from rural place. Majority of the participants did not took the necessary preventive measures to reduce the risk of HBV transmission, namely not using barrier method for sexual practices 06 (08%) and also sharing of personal items such as blades and razors with others. Less than one-fourth participants had encouraged family members to screen for HBV 24 (24%) and taking vaccination 16(16%). Similar results were reported by Razi and colleagues in 2010 from Pakistan³³ and Kabir et al. in 2010 from Iran³⁴ where the participants reported to have poor practices which were directly related to the knowledge and awareness regarding hepatitis B infection. Approximately half of the participants avoided sharing eating and drinking utensils due to misconception and erroneous knowledge on viral transmission. Patients with higher HBV knowledge were less worried ever since diagnosed with HBV. Perhaps some patient of this study, who felt worried ever since diagnosis gathered more information about the disease and became more knowledgeable. Studies have shown that knowledge enhances attitude and behavior in healthcare. Educational qualification was one of significant factor associated the mean KAP scores. Cheung et al. in 2005 and Wu et al. in 2007 however reported education level as the significant factor associated with KAP scores of their study participants^{16, 35}.

Correlation between knowledge, attitudes and practices

The study revealed significant positive linear correlations between knowledge-attitude ($r = 0.909$, $p < 0.0001$) knowledge-practice ($r = 0.904$, $p < 0.0001$) and attitude-practice ($r = 0.948$, $p < 0.0001$). This positive correlations reaffirm the relationship between knowledge, attitude and practice towards HBV infection. The findings are more significant than results presented by Ul Haq et al. in 2012³⁶ and Singh et al. in 2010³⁷. Adequate knowledge can lead to positive attitude and ultimately good practices.

Conclusion:

The study revealed poor knowledge on understanding of HBV, routes of transmission, modes of prevention and complications of HBV among the patients of chronic HBV infection. Poor knowledge, misconceptions and social stigma were contributed in development of negative attitudes and poor lifestyle practices.

Recommendations:

Increasing prevalence of HBV in the developing countries like Bangladesh would pose a real threat in existing health care services. On the basis of the result of this study, integrated with the understanding from the available literature it is recommended that adaptation of collaborative care is necessary where healthcare providers should play main role in educating the general population about HBV.

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Hysteroscopic Evaluation of Uterine Cavity: Human Foreign Body as Cause of Infertility

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Abstract:

Background: In the workup of infertility case, there are considered various factors of which uterine cause is one of them. There are many tools i.e. pelvic sonography, x-ray pelvic organ, diagnostic dilatation & curettage etc. None can evaluate the interior of uterus completely. The only tool hysteroscopy may play an important role prior to or in conjunction with assisted reproductive techniques to help infertile women and couples in achieving their goals of a pregnancy, in evaluating the endometrial cavity including fallopian tubes with the aid of chromopertubation. In this study hysteroscopic evaluation of a case suffering for long 12 years was diagnosed. Though usg report was suggestive for an endometrial calcification, which was inconclusive. It was a human foreign body and removed hysteroscopically. Ultimately the lady conceived.

(J Com Med Col Teachers Asso January 2020; 24(1): 60-62)

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Introduction:

“The womb is the field of generation; and if this field be corrupted it is in vain to expect any fruit though it be ever so well sown.” Aristotle¹

In 2002, about 2.1 million women in the U.S were infertile. According to the National Center for Health Statistics, it was tabulated that between 2006 and 2010, rates of infertility were to range 8-30% for married women ages 15-44 years². Though assisted reproductive technology has been used to treat many of those women, hysteroscopy has been proven within peer-reviewed published literature to be a valuable tool for diagnosis and treatment of some infertile women prior to or after undergoing assisted reproductive techniques. Hysteroscopic indications for infertile women include intracavitary abnormalities, such as sub mucous fibroids, endometrial polyps, uterine septum, adhesions, and retained products of conception. In addition, the role of hysteroscopy in proximal tubal occlusion, failed IVF cycles and first-trimester miscarriages. It is also valuable in detecting Intra-cavitary pathology, i.e. distorted the uterine cavity³. It is postulated mechanisms by which submucous fibroids cause infertility include the following: interference with normal patterns of endocrine function⁴, distortion of endometrium⁵, dysfunctional uterine contractility⁶, distortion or obstruction of tubal ostia⁷, chronic endometrial inflammation⁶ and abnormal uterine vascularization^{8,9}.

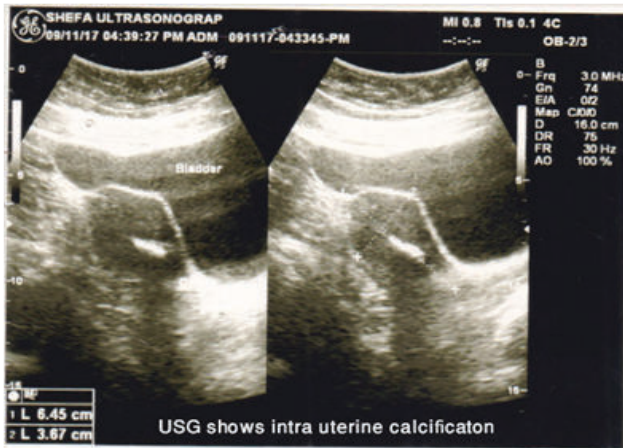
A 38 years old female house wife with complain of primary infertility having regular coital history. No sexual behavior problem. She gave history of gradual decrease of menstrual blood flow, her cycle length was 28 (2-5) with scanty out flow.

She had no history of D&C and her elder and younger sisters have offspring. She had disclosed premarital relationship, but not disclosed any intervention. She had many treatment histories with medication for infertility, but never succeeded to have a pregnancy before.

On examination, she had average built body with normal secondary sexual characteristics, with BMI 27 kg/m², no tender mass or uterus was not enlarged.

On laboratory investigations CBC, differential count was not significant. HBs-Ag Negative, HIV negative, Mantoux test negative ESR were within normal range. Chlamydial antibody and VDRL were -ve. Her husband's semen analysis report was normal as per WHO standard 2010.

Her USG report: normal sized uterus with intra uterine calcification. Diagnostic D & C done but was inconclusive specimen collected. Histopathology report: endometrium was in secretory phase, which was normal for her period. Repeat USG report revealed again intrauterine calcification. Then decided for hysteroscopic evaluation for her.



Under general anesthesia with aseptic precaution hysteroscopic examination was carried out, Initially there was found a dense adhesion at the level internal os, adhesiolysis was done with hysteroscopic scissors. In the uterine cavity there was found two bony fragment of long bone of 5/6 month aged fetus and removed with hysteroscopic forceps, endometrial cavity resemble septate in nature. Separation was done with scissors & endometrial tissues collected for histopathological examination. Both ostia were found patent.



Postoperative management was done with fluids, antibiotics, antifungal agent and analgesics. patient was discharged with full recovery.

Discussion:

Hysteroscopy is the gold standard procedure for uterine cavity exploration¹⁰ though office hysteroscopy is only recommended by the WHO when clinical or complementary exams suggest intrauterine abnormality¹¹.

But many specialist use hysteroscopy as a first line exam for infertility patient regardless of guidelines. Because of no other tools are able to visualise intrauterine pathology. As clinical findings suggested, there was a probability of retained product of conception, but so long duration made suspicious of organized old calcification, might lead to an inflammatory reaction with in the cavity causing intrauterine adhesion and thus infertility. Typically a diagnosis could be made with a history suspicious pregnancy loss with or without D&C¹².

It was very unusual to find a human foreign body retained for such long period (12 years) with regular menstrual cycle, overlooked easily by the fertility specialist. With close empathetic discussion and counseling made suspicion of intrauterine retention of bony fragments. Gentle hysteroscopic examination revealed intrauterine adhesion and forgotten human bony fragments from uterine cavity.

Conclusion:

This case study disclose the fact: when other ancillary aid failed to find out intrauterine factor. Hysteroscopy may play an important role in conjunction with other modalities of reproductive techniques to evaluate endometrial cavity and removing the cause including foreign body in the uterus helps in infertile women and couples to achieve their goals of a pregnancy in a case of infertility.

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Date of Publication: January- 2020