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General Medicine

EMERGENCY ENDOSCOPIC EVALUATION OF UPPER GASTRO-INTESTINAL BLEEDING

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KEYWORDS :

INTRODUCTION

Gastrointestinal bleeding is a challenging emergency which is associated with high mortality. The clinical presentation of GI bleeding depends on the location, rate of bleeding and aetiology of the disease. Haematemesis defined as vomiting of blood indicates upper gastrointestinal (UGI) bleeding and the site of bleeding is above the ligament of Treitz. The blood may be fresh and red coloured or may be old having the appearance of coffee grounds.

Melena is defined as passage of black tarry stools which are often foul smelling. This results from degradation of blood to haematin and other haemochromes. Melena is usually the result of UGI bleeding, but slow bleeding from distal small bowel, caecum and ascending colon can also lead to melena; about 50 to 100 ml of bleeding in the GI tract is required to cause melena. Haematochezia refers to the passage of fresh red blood from the rectum, which suggests a low source of bleeding but can also occur with massive bleeding from the UGI tract (usually more than 100 ml). About 30% of patients with UGI bleeding present with haemetemesis. 30% with melena and 50% with both'.

The common causes of UGI bleeding include peptic ulcer disease, esophageal or gastric varices, Mallory-Weiss tear, erosive gastritis or duodenitis, malignancy, angiodysplasia and Dieulafoy's lesions. Peptic ulcer disease is the most common cause, accounting for 50%. Bleeding from varices esophageal or gastric accounts for 10% to 30%. Studies from central and North India have described variceal haemorrhage to be more common (40% to 50%). About 10% of patients with portal hyepertensions may have a non variceal source of bleeding such as peptic ulcer or Mallory-Weiss tear. Mallory-Weiss tear usually occurs in the gastric mucosa at gastro-esophageal junction and is considered to be caused by forceful retching. Dieulafoy's lesion denotes erosion of mucosa by an underlying large sized arteriole. Though Dieulafoy's lesions can be located anywhere in the GI tract, they are typically found in the upper part of the stomach.

Upper GI Bleeding is an important medical emergency which can be catastrophic many a times. Hence, acute Upper GI bleeding needs prompt assessment and aggressive medical management 2.3. All patients need to undergo endoscopy to diagnose, assess, and possibly treat an underlying Lesion". Rebleeding or continued bleeding is associated with increased mortality; therefore, differentiating the patient with a low probability of rebleeding and little comorbidity, from the patient at high risk for rebleeding with serious comorbidities is imperative. And here lies the importance of emergency upper GI endoscopy.

Besides, the timely endoscopic intervention will give us the more clues on obscure GI bleeding. as, late endoscopy might not achieve the advantage of intervention. Thus, through the emergency endoscopic procedure, we will be able to not only to come to the etiologic conclusion of a disease; we can have a more vivid and elaborate diagnostic approach towards the obscure GI bleeding. Diagnostic upper pan-endoscopy is the preferred UGI investigative procedure for UGI bleeding for its accuracy, low rate of complications and potential for therapeutic intervention. It is the gold standard procedure[3]

Upper endoscopy is performed for many indications such as Gastro-intestinal bleeding, abdominal pain, dysphagia, or surveillance of premalignant lesions. Endoscopes help medical procedures to be less invasive, thereby reducing the risk of complications as well as costs and recovery times.

The first modern endoscope was invented almost 50 years ago and consisted of a bundle of optical fibres. Miniature endoscopes still use bundles of optical fibers to transmit a two dimensional image, but larger endoscopes now employ solid-state, charge-coupled-device cameras for superior image quality. Fiber-bundle endoscopes with sub-millimeter diameters have been used for a variety of clinical applications. Operator controls permit deflection of the endoscope tip; fiber optic bundles bring light to the tip of the endoscope; and working channels allow washing, suctioning, and the passage of instruments. Progressive changes in the diameter and stiffness of endoscope have improved the ease and patient tolerance of endoscopy 6.

A second endoscopy can be done and helpful to know the diagnosis and the treatment but generally not recommended within 24 hours after the initial procedure. Endoscopic therapy stops the bleeding in more than 90% of patients, but bleeding recurs after endoscopic therapy in 10% to 25% Reversal of any severe coagulopathy with transfusions of platelets or fresh frozen plasma is essential for endoscopic hemostasis.

However, coagulopathy at the time of initial bleeding and endoscopy does not appear to be associated with higher rates of recurrent bleeding following endoscopic therapy for non variceal upper GI bleeding. Patients with refractory bleeding are candidates for angiography or surgery. However, even when endoscopic hemostasis fails, endoscopy is important before angiography or surgery to pinpoint the site of bleeding and diagnose the cause.

It is appropriate in cases in which clinical signs indicate recurrent bleeding or if hemostasis during the initial procedure is questionable. A meta-analysis found that routinely repeating endoscopy reduces the rate of recurrent bleeding but not the need for surgery or the risk of death.7. The etiology of UGI bleeding varies from country to country and region to region of India as there is paucity of epidemiological data or UGI bleeding. To the best of our knowledge this study has not done previously in our state, Tripura. Hence, to know the etiology of UGI bleeding in Tripura and North-East India, the study will provide a new insight.

Our center AGMC and GBP hospital introduced the endoscopy services in 2001 and performing fiberoptic upper GI endoscopy in the diagnosis and treatment of upper gastrointestinal bleeding. Agartala Government Medical College is the tertiary care center of Tripura. This is the most prominent centre of Endoscopy in state. Hence, our data will be reflecting the data of our state. The unit performing almost 2000 upper GI endoscopy every year and almost 40% of them are due to upper Gl bleeding.

AIM AND OBJECTIVES

Aim:

1) To evaluate the etiology of Upper Gastro-intestinal bleeding in Tripura.

OBJECTIVES:

1) To determine the etiology of Upper Gastro-Intestinal bleeding by emergency endoscopic evaluation in subjects admitted at AGMC and GBP hospital and to compare it with other regions of India.
2) To study the clinical and endoscopic profile of acute upper gastrointestinal bleed to know the clinical presentation, severity of bleeding and outcome.

MATERIALS AND METHODS

The study was conducted in the Endoscopy Unit, Department of Medicine, Agartala Government Medical College and GBP Hospital, Agartala for one year with effect from September, 2013 to August, 2014.

Type of Study: The study was a Prospective - Cross Sectional Study.

Subjects:
All the patients, both male and female, admitted with Upper GI Bleeding (Hematemesis/ Melena) in the Medicine ward of AGMC and GBP hospital, Agartala.

Sample size:
In an equation where p+q=100, let p be the sensitivity of Endoscopy and q the non-sensitivity of UGI Endoscopy. The standard error of p is given by the formula Vpq/n, where n is the sample size.

It is given that p=90.0 % 19, q= 100 minus p = 10 per cent. Allowance of error (E) 10 per cent of sensitivity and n is to be found out based on these details given.

E= 10 per cent of sensitivity = 10% of p= 10/100 x90 = 9 per cent
Za/2=E/√pq/n;t a/2= 20.025-1.96
When both sides are squared, formula is
$Z^2a2=E^2/pq/n$ i.e., $n = Z^2a2\ pq/ E^2 = (1.96)^2 x\ 90.0 x\ 9/ (9)^2$

= 3.8416 x 90x1/9
= 345.744 x 1/9
= 38.416

Considering 39 no cases to be the minimum number for statistical significance, it was decided that 100 numbers of cases were examined during this period.

INCLUSION CRITERIA:
Adult male and female patients presented with Melena or Hematemesis in various Medicine wards.

All the patients were stabilized hemodynamically before the endoscopic procedure.

Endoscopy was done within 24 hours of admission to hospital.

EXCLUSION CRITERIA:
Hemodynamically unstable Patients.Previously diagnosed /treated Upper GI malignancy.

Bed ridden and severely ill patients.Patients or guardian denial for the endoscopic procedure.Any such patients in whom endoscopy cannot be performed.

CONCLUSION
Acute Upper GI bleeding is a medical emergency. Intervention within first 24 hours is very crucial after stabilizing the patients with cirrhotic portal hypertension, Child Pugh 'C', having massive bleeding, comorbidities and Rockall score more than 5(five) as they are the most vulnerable group for fatal outcome in these patients. Urgent, appropriate hospital management definitely helps to reduce morbidity and mortality.Hence, all patients presenting with melena or hematemesis need to undergo endoscopy to diagnose, assess, and possibly treat an underlying lesion. Rebleeding or continued bleeding is associated with increased mortality; therefore, differentiating the patient with a low probability of rebleeding and little comorbidity, from the patient at high risk for rebleeding with serious comorbidities is imperative. And,here lies the importance of emergency Upper Gastro Intestinal endoscopy.

Summary
To summarise, patients with Upper GI bleeding at Agartala Government Medical College and GBP Hospital, a tertiary hospital, are usually hospitalized regardless of clinical status or endoscopic findings. The results of an increasing number of studies suggest that early endoscopy (within 24 hours of admission to the Emergency Department) with limited hospital stays and/or outpatient care is a safe alternative to a costly hospitalization.

The findings in our study suggest the possibility of excess use of healthcare resources and suggest that the use of the Rockall score may reduce costs in treating this patient population. This could also improve the quality of life for patients, as they would not be subjected to extended hospital stays. Our study demonstrated that there may well be a beneficial impact on healthcare resources utilized because the average length of stay at our hospital for low-risk patients was longer than may have been necessary. In our study the Rockall scoring system is useful in identifying patients with nonvariceal upper GI bleeding who have low-risk scores in order to triage appropriately, without affecting patient outcomes. Outcomes were better when patients were managed by experienced gastroenterologists, resulting in significantly fewer recurrent bleeding, rates and transfusion requirements.

Early endoscopy was the most accurate method of determining the cause of bleeding and that endoscopic therapy significantly reduced transfusion requirements, the need for urgent surgery, the length of hospital stay, and probably mortality from Upper GI bleeding. Early endoscopy facilitate suitable triage of patients. For this reason, we have to perform endoscopy within 24 hours of Emergency Department admission, and this is something we would need to address further in our prospective studies.

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