ORIGINAL ARTICLE

A Study of Portal Hypertensive Polyps

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ABSTRACT

BACKGROUND: Portal Hypertension induces mucosal changes like portal hypertensive gastropathy, duodenopathy and colonic mucosal abnormalities. These polyps are commonly found in the stomach than other parts of bowel. Portal hypertensive polyp usually occur in cirrhotic Portal Hypertension and are also in Extra Hepatic Portal Vein Occlusion. Diagnostic criteria for Portal hypertensive polyp is not yet clearly described. Hence it becomes essential to evaluate the prevalence of polyps in portal hypertensive patients. **AIMS:** To estimate the prevalence of portal hypertensive polyps in patients with Portal Hypertension due to any etiology. **METHODS:** This is a Prospective Observational study of patients with portal hypertensive polyps. All patients in age group of 18 to 80 years who had portal hypertension diagnosed by clinical, laboratory and imaging criteria who went upper gastro intestinal endoscopy from the period of May 2012 to April 2013 were included in the study. Diagnosis of portal hypertensive polyps was confirmed histologically. Patients with Proton pump inhibitor use, Gastric varices, H.Pylori gastritis, History of Inherited Polyposis Syndromes, Patients who refused consent were excluded. **RESULTS:** A total of 3,621upper GI endoscopies were done of which 428 patients had portal hypertension. Polyps were noted in 9 patients(2.1%). Out of 428 patients 366 had chornic liver disease and 62 had extrahepatic portal hypertention and out of them 1 was excluded due to Rapid urease test positivity. Histopathological examination showed four had extensive vascular proliferation and glandular hyperplasia (portal hypertensive polyp) two had Hyperplastic polyp and other two had neuroendocrine tumour. Endoscopic appearances of polyps varied considerably, with sizes ranging from 5mm to 15 mm. Polyps were sessile or pedunculated, singular or multiple, found in the antrum, body of the stomach .There is no specific endoscopic features to identify portal hypertensive polyps. **CONCLUSION:** Portal hypertensive polyps are rare. There is no specific endoscopic features. Biopsy is necessary for diagnosis. Longterm studies are needed to characterise their significance.

Key words: Portal hypertensive polyp, Polyp in cirrhosis, Endoscopy, Histopathological examination

INTRODUCTION

Portal Hypertension produces mucosal changes like portal hypertensive gastropathy, duodenopathy and colonic mucosal abnormalities. The aim of this study is to find the association between portal hypertension and gastroduodenal polyps. These polyps are commonly found in the stomach than other parts of bowel.[1] Portal hypertensive polyp usually occur in cirrhotic Portal Hypertension and are also in Extra Hepatic Portal Vein Occlusion. [2] Lam et al, states that 12 cases were identified as Portal hypertensive polyp over 20 years.[1] Amarapurkar et al made retrospective analysis on polyp. In this Study out of 631 patients with portal hypertension 16, (2.53 %) had gastric and duodenal polyps. Nine of these were diagnosed as Portal hypertensive polyp, six as hyperplastic polyp, and one as fundic gland polyp[4.] Diagnostic criteria for Portal hypertensive polyp is not yet clearly described. Hence it becomes essential to evaluate the prevalence of polyps in portal hypertensive patients.

MATERIAL & METHODS

The study included patients in age group of 18 to 80 years with portal hypertension diagnosed by clinical evidence of splenomegaly, ascites, and an increased number of venous collateral vessels on the anterior abdominal wallbased on laboratory and imaging criteria. patients with ascites and evidence of portasystemic encephalopathy (asterixis), hypoalbuminemia (<2.8 g/dL) and a prolonged prothrombin time(international normalized ratio >1.6)) have cirrhosis of the liver.They have undergone upper

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gastro intestinal endoscopy from the period of May 2012 to April 2013 and they were included in the study

Exclusion Criteria

- Patients on Proton pump inhibitors.
- Gastric varices
- H. Pylori infection –Rapid Urease Test positive
- History of Inherited Polyposis Syndromes
- Patients who refused consent

Clinical evaluation: In the study group, diagnosis of Portal Hypertension was done on the basis of clinical, laboratory and radiological parameters. Presence of ascites was diagnosed clinically and confirmed by ultrasonagram. It is graded by Gine's et al Grade 1- ascites Mild ascites only detectable by ultrasound. Grade 2 -ascites Moderate ascites evident by moderate symmetrical distension of abdomen. Grade 3-ascites Large or gross ascites with marked abdominal distension.[5] The grading of hepatic encephalopathy was done by applying West Haven criteria.[6-7]

Laboratory Investigations: Haematological investigations like haemoglobin, WBC count, platelet count, prothrombin time, bilirubin (total, direct, indirect), total protein, albumin and globulin, alanine aminotransferase, aspartate aminotransferase, HBsAg and Anti HCV were performed for all patients. Tests for autoimmune liver disease, haemochromatosis and Wilson disease were done only if clinical situation warranted the study. Ascitic fluid analysis was done for estimation of serum ascites albumin gradient. Patient were graded under Child pugh score and MELD score.

Endoscopic examination All the patients were subjected to oesophagoduodenoscopy after an overnight fasting. Esophageal varices may be small and straight (grade I); tortuous and occupying less than one third of the esophageal lumen (grade II); or large and occupying more than one third of the esophageal lumen (grade III).Red signs include red "wale" markings, which are longitudinal whip-like marks on the varix; cherry-red spots, which usually are 2 to 3 mm or less in diameter; hematocystic spots, which are blood-filled blisters 4 mm or greater in diameter; and diffuse redness. The color of the varix may be white or blue.[8] McCormack et al[9] first described portal hypertensive gastropathy. His classification defined endoscopic appearance in the mild stage as mosaic pink in the center, the fine red speckling, the scarlatina type rash and the snake skin pattern and in the severe stage red spots, the brown spots and the diffuse hemorrhagic lesions. Other entities have then been documented, such as portal hypertensive enteropathy[10] and colonopathy[11]. Polyps were noted during the routine endoscopy (Fig 1&2). Biopsy was taken from polyp andsent to the Department of Pathology for Histopathological examination.The collected biopsy sample was fixed with 10% formalin

Rapid urease test : RUT was done for all those patients who had polyp by using HelicotecUT plus test with card of Gentaur company.

Histopathological examination: After tissue processing methods, Hematoxylin and eosinstained slides were prepared for microscopic examination.

Portal hypertensive polyp: The unique histopathological finding of Portal hypertensive polyp is foveolar hyperplasia of the epithelium along with underlying vascular proliferation. Histopathological appearance of hyperplastic polyp is cystic dilated glands lined by hyperplastic foveolar cells surrounded by dense inflammatory cell infiltrate .Whereas appearance of Neuroendocrine tumour is dilated mucosal glands and ectatic blood vessel with hyperplastic island of neuroendocrine cells around blood vessels.

RESULTS

A total of 3,621 upper gastro intestinal endoscopies were done, out of which 428 patients had portal hypertension. Out of 428 patients 366 had chronic liver disease and 62 had extrahepatic portal hypertension. Polyps were noted in 9 patients (2.1%) of the study population. Out of the 9 patients with polyps, one was excluded as she was diagnosed to be infected with H.pylori. The H.pylori infection was confirmed by the Rapid

Urease Test. Finally 8 patients were enrolled into this study.

Regarding the age group of the study population 6 were grouped within the range of 40-60 and 2 were grouped above 60. Out of them, 7 were Male patients and 1 was a female patient. Based on the aetiology, 5 cases were found to be due to ethanol and 1 case presenting with each of the following respectively NAFLD, cryptogenic and HBV.

Clinical profile of patients revealed that 2 patients had no ascites, 2 patients presented with Grade I, III patients were with Grade II and one had Grade III. 2 patients presented with mild encephalopathy (grade I & II), 3 patients had severe encephalopathy (grade III &IV) and there was no encephalopathy in 3 patients .

Laboratory findings of serum bilirubin- 3 patients showed < 2mg/dl, 4 patients with 2mg/dl to 3mgl/dl and 1 patient with > 3 mg/dl. Serum albumin value ranging from 2.8mg/L to 3.5mg/L was seen in 3 patients and <2.8mg/L in 5 patients. Regarding prothrombin time 2 patients revealed a result of 4 seconds prolongation, 3 patients revealed 4 – 6 seconds prolongation and 3 patients revealed >6 seconds prolongation.

In diagnostic workup, one patient resembled grade I oesophageal varices, 4 patients resembled grade II oesophageal varices and 3 patients resembled grade III oesophageal varices. Red signs were absent in majority of patients (7) and one had red signs. Based upon the child pugh score the study group may be classified as A (1patient), B(3 patients) C (4 patients).The study group presented with MELD scores as follows. 2 patients Scoring<10, 5 patients scoring 10-15 and 1 patient scoring > 15.

Totally 8 patients presented with polyps. 5 were with severe portal hypertensive gastropathy, 3 with mild portal hypertensive gastropathy.

Endoscopic appearances of portal hypertension-associated polyps varied considerably, with sizes ranging from 5mm to 20 mm. They were sessile or pedunculated, single or multiple polyps were found in all areas of the stomach, presenting with no specific endoscopic features.

In the study population polyp size varied with a range of 5mm to > 15 mm, so the polyps were categorized into 3 groups 5-10 mm, 10-15 mm and > 15mm .The majority of the polyps ranged from 5-10mm in the first group which was seen in 50 % of the study population(4 patients), in the second group ranging from10mm-15mm 37.5% (3 patients) and in the last group of > 15mm -14% (1 patient). Size of 4 portal hypertensive polyps was 8 mm, 10mm, and 2 polyps 15mm.

Multiple polyps (62.5%) were more common than the single ones (37.5%). Sessile polyps were seen in 5 patients (62.5%). The poly was pedunculated in 3 patients (37.5%). Observation of polyps in the entire part stomach was in 4 patients (50%), Distal stomach-2 patients (25%), Proximal stomach-1 patient (12.5%), Duodenum-1 patient (12.5%) Histopathological examination results revealed 4 Portal hypertensive polyps, 2 hyperplastic polyps and 2 Neuroendocrine tumour.

All the four patients with portal hypertensive polyps were in class child pugh -C and had severe portal hypertensive gastropathy. Their sizes ranging from 5-15mm, three were sessile and one was pedunculated. Regarding their location one in the proximal part of stomach, one in the distal part of stomach and two were multiple polyps spread in the entirepart stomach. Significantly histopathological examination revealed that none of the patient with extra hepatic portal hypertension had portal hypertensive polyps. .

DISCUSSION

Polyps are generally common in the fundic region of the stomach in the upper gastrointestinal system[6]. Prevalance of gastric polyps is 1.9% in general population[5-7.] Amarapurkar et al states that out of 631 patients with portal hypertension 16 had gastric and duodenal polyps with prevalence of 2.53%.In this clinical study,out of 428 patients with portal hypertension, 9 cirrhotic patients had polyps, with a prevalence of 2.1% .These polyps were commonly located in

Fundus and Antrum.84 % of Gastric Polyps are associated with Familial Adenomatous Polyposis (FAP) and Attenuated Familial Adenomatous Polyposis (AFAP)[5] Polyps are also seen in patients who are on long term proton pump inhibitors.[13] In Helicobacter pylori infection there is chronic inflammation which may lead on to the development of polyp**.** Due to these reasons the above said conditions were taken as an exclusion criteria so as to minimize compounding variables.

In this study most of the polyps are associated with severe portal hypertensive gastropathy(62.5%). The diagnostic histological appearance of Gastric Portal hypertensive polyp is the presence of variable foveolar hyperplasia of the epithelium along with underlying vascular proliferation.[12] Literature states that portal hypertensive polyps have a similar pathogenesis to portal hypertensive gastropathy. Jason Timothy Boyd et al. statesthat portal hypertension is associated with an increased number of gastric polyps and he reported as a single case. In our study we found that the incidence of polyps only in severe portal hypertensive gastropathy, 5 patients (62.5%) in accordance with the literature.

In Amarapurkaretal study, out of 16 patients, nine were diagnosed as Portal hypertensive polyp, six as hyperplastic polyp, and one as fundic gland polyp.[14] In our study histopathological examination revealed 4 Portal hypertensive polyp, 2 hyperplastic polyp and 2 Neuroendocrine tumour.

Lam et al, states that within 20 years12 cases were diagnosed as Portal hypertensive polyp[1.] In contrast to Lam study we had encountered 4 polyps in a study duration of 11 months, stating that polyps may be more common in the Indian population but this has to be confirmed by long term studies.

CONCLUSION

In cirrhosis with Portal hypertension patients polyps are the definite identifiable lesion. Portal hypertensive polyps are rare. Portal hypertension polyp has unique histological appearance. Biopsy is necessary for diagnosis. Long-term studies are needed to characterise their significance.

Abbreviations: MELD -Model for End-Stage Liver Disease ; NAFLD - Non-alcoholic fatty liver disease HBV - Hepatitis B virus;H. pylori - Helicobacter pylori .

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