PYLORIC GLAND ADENOMA OF STOMACH: A RARE CASE

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ABSTRACT

Pyloric gland adenoma is an uncommon precancerous polypoidal growth. Pyloric gland adenoma of stomach accounts for 2.7% of all gastric polyp. Mostly Pyloric gland adenoma are found in stomach but can be found in other anatomical sites. Pyloric gland adenoma of stomach occur in elderly population and having female predominance. Pyloric gland adenoma of stomach is commonly seen in chronic gastritis patients, autoimmune gastritis but can also occur in some genetic disease like familial adenomatous polyposis and Lynch syndrome. Early identification and therapeutic polypectomy by endoscopically and histopathological evaluation and confirmation of pyloric gland adenoma may reduce the chances of transformation of invasive adenocarcinoma.

KEYWORDS: Pyloric Gland Adenoma, Endoscopy, Stomach.

INTRODUCTION

A rare neoplasm of Gastric pyloric gland is a polypoidal growth of dysplastic epithelium. Pyloric gland adenoma is an uncommon neoplasm of gastric pyloric gland.(1,2) World Health Organization 2019 classification of Digestive system Tumours, Gastric gland adenomas are categorized into gastric and intestinal type. They are usually of 2 types foveolar and pyloric gland adenoma.(3). For the differentiation of Gastric pyloric gland adenoma is foveolar type, which is immunohistochemical stain Mucin 6 (MUC6) negative and Mucin 5AC (MUC5AC) positive. MUC6 is positive in pure pyloric type adenoma. MUC6 and MUC5AC both are positive in mixed type of pyloric gland adenoma. Only MUC5AC positive in foveolardominant type pyloric gland adenoma. Immunohistochemical marker helpful for differentiation of other submucosal polyp of stomach. They most frequently occur in the stomach but can be found in the esophagus, duodenum, gallbladder, bile duct, rectum, pancreas, and heterotopic mucosa in Barrett's esophagus. In the stomach majority of Pyloric gland adenoma occur in fundus/corpus and less commonly occur in gastroesophageal junction, cardia, antrum, and pylorus. The average size of polyp is 0.5-2.5 c.m. Mutation of β -catenin gene is detected in 60% of pyloric gland adenomas. (7) p53 expression evaluated in pyloric gland adenoma and has less frequent nuclear expression demonstrated. The nuclear p53 expression may correlate with high-risk

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pyloric gland adenoma. Pyloric gland adenoma have genetic abnormalities like APC mutation, GNAS, KRAS and chromosomal abnormalities like gains of 17pq and 20q and losses 4q and 6q. They occurs predominantly in old patients (>45 years of age), more frequently in women than in men.(4) Its incidence is low, accounting 2-2.7% of gastric adenoma.(5,8) They are frequently seen in chronic gastritis, autoimmune gastritis and helicobacter pylori associated gastritis and risk of transformation of dysplasia and invasive adenocarcinoma is associated with 13- 46% of the lesions.(10) Wood et.al. observed Gastric pyloric gland adenoma in patient with Familial adenomatous polyposis (FAP) (7) and Lee et. Al. observed in patient with Lynch syndrome. (11)

CASE REPORT

CHIEF COMPLAINS AND HISTORY OF PRESENTING ILLNESS

A 64 years old female came in medicine department of Era Lucknow Medical College and hospital Lucknow, presenting with complain of epigastric pain, regurgitation, heartburn for 2 years and some episode of melena in last 4 days. Symptoms were relieved by administration of proton pump inhibitors (PPI) and antacid liquid.

HISTORY OF PAST ILLNESS

She was a known case of hypertension, hypothyroidism and arthritis. She was ingested combination of Telmisartan 40mg and Hydrochlorothiazide 12.5mg for hypertension, Thyroxine 50 mcg for hypothyroidism, Etoricoxib 90mg, calcium and vitamin D3 for arthritis. She had a history of piles surgery 10 years back.

PERSONALAND FAMILY HISTORY

Her diet and appetite was normal. No history of any kind of addiction. No family history of any genetic disease.

PHYSICAL EXAMINATION

Her physical examination revealed 160 cm. height and 75 kg weight. Blood pressure 128/94 mmHg and pulse rate 76 beats per minute. Spooning of nails were present. On abdominal palpation liver was just palpable.

LABORATORY FINDINGS

Routine investigation of blood like complete blood count, lipid profile, Iron profile, liver function test, kidney function test and some common serum tumor markers such as alpha-fetoprotein, carbohydrate antigen 724, carbohydrate antigen19-9, and carcinoembryonic antigen were performed. Laboratory tests showed only microcytic hypochromic anemia. All other tests were unremarkable.

RADIOLOGICAL FINDINGS

On abdominal USG showed mild hepatomegaly and no other organomegaly and abnormality identified.

ENDOSCOPIC EXAMINATION

During Upper gastrointestinal endoscopic examination 2 approximately 0.5 to 1.0 cm. polyps with lobulated surface and depression in the center were detected in greater curvature of stomach, polyps were located in superficial layer of mucosa than diagnostic and therapeutic polypectomy was performed and specimen send to the pathology department of Era Lucknow medical college and hospital Lucknow for histopathologic evaluation and diagnosis.

HISTOPATHOLOGIC EXAMINATION

Grossly polyps were gray-white to gray-brown softtissue pieces one piece measuring 0.5 cm. and other piece measuring 1.0 cm. in size. Routine Hematoxylin and Eosin staining was done and on microscopic examination of polyp consisted of mucin-rich tightly packed tubular glands in back to back arrangement (with occasional cystic dilation) lined by cuboidal to low columnar epithelium demonstrating round to oval basally placed nuclei with occasional nucleoli and abundant eosinophilic (ground glass appearance) cytoplasm. (fig.1&2) The polyps were reported as pyloric gland adenoma of stomach.



Fig. 1: H&E Stain: Tightly packed tubular glands (back to back pattern) with mucin rich is lined by cuboidal to low columnar cells with amphophilic cytoplasm in Pyloric gland adenoma. x4 (black arow)



Fig. 2: H&E Stain: Adenoma, tubular pyloric gland type. Mucin-rich tightly packed tubules (Red arow) lined by single layer of cuboidal to low columnar epithelium with basally placed round to oval nuclei and abundant amphophilic (ground glass appearance) cytoplasm. X10)



Fig. 3: H&E Stain:Pyloric gland adenoma. Mucin rich glands, Basally placed nuclei and ground glass appearance of cytoplasm (Black arow).x40

DISCUSSION

Pyloric gland adenoma is an uncommon benign polypoidal lesion among all gastric polyp. The predisposing factors of pyloric gland adenoma is remains unclear but some studies proven that it is found most commonly in chronic gastritis, autoimmune gastritis and Helicobacter pylori associated gastritis patient. In our study the patient was 64 years old female has without infection of Helicobacter pylori associated chronic gastritis and Chlumska A. et al. (4) reported that Pyloric gland adenoma is common in chronic gastritis patient. Two polypoidal growth were found in greater curvature of stomach. Dome shaped lesion found in Pyloric gland adenoma and characterized by back to back gland and some of which presented cystically dilated. Immunohistochemical stain MUC6 (marker of pyloric gland mucin) and MUC5AC (marker of foveolar mucin) positive in Pyloric gland adenoma and MUC2 (marker of intestinal mucin) negative.(8,9) It is a precancerous lesion have high likelihood to change into gastric invasive adenocarcinoma. They most frequently occur in the stomach but can be found in the duodenum, esophagus, gallbladder and rectum. In the stomach most commonly found in fundus/corpus followed by cardia and antrum. The performance of endoscopic examination is important for the diagnosis of adenomas. Highly variable appearance present in endoscopic examination of pyloric gland adenoma and include a polypoidal lesion or mass (most common), mucosal irregularity, ulcer and flat lesion.(1) It is difficult to diagnose accurately. Pyloric gland adenoma need to be complete excision because of malignant potential.(3) After endoscopic or surgical resection of pyloric gland adenoma overall local recurrence rate is less than 10%.(1)

CONCLUSION

We present a rare case of pyloric gland adenoma of stomach is an uncommon adenoma and most commonly seen in elderly female. Precancerous nature of Pyloric gland adenoma is well stablished but malignant transformation 13-46% is observed. Endoscopically, most of the lesion are polypoidal. Early endoscopic examination, deeper biopsy and therapeutic polypectomy may reduce the chances of adenocarcinoma. So, it is necessary for endoscopist and pathologist to be aware and alert of this type of polypoidal growth in the stomach. Regular follow up and time to time endoscopy is required for better cure.

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