CASE REPORT

XANTHELASMAS OF THE UPPER GASTROINTESTINAL TRACT: A REPORT OF FOUR CASES

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HOW TO CITE THIS ARTICLE:
M. Devojee, G. Rajeshwari, K. Jagan Mohan Rao, M. P. Akarsh. "Xanthelasmas of the Upper Gastrointestinal Tract: A Report of Four Cases". Journal of Evidence based Medicine and Healthcare; Volume 2, Issue 18, May 04, 2015; Page: 2781-2785.

ABSTRACT: Xanthelasmas of the upper gastrointestinal tract are uncommon endoscopic lesions that may cause diagnostic confusion in patients at risk for neoplasia. Many reports about Gastric Xanthomas have shown its frequency of 0.018%-0.8%. Although the clinical significance of gastric xanthelasmas is unclear, they are important lesions because they may be confused with malignant lesions. Xanthelasma is more frequent in women and its incidence increases with age. Xanthomas are mostly diagnosed in the lamina propria of the stomach, mainly in the antrum and pyloric region. Grossly, they appear as small round to oval shaped well circumscribed yellow white intramucosal nodules or plaques. Histologically, they consist of loosely organized aggregates of foamy histiocytes in the lamina propria. There are few reports of gastric xanthomas in the literature. On endoscopy it may mimic malignancy and inexperienced clinicians may be confused. On histopathology foamy cells may sometimes resembles signet ring cells as seen in malignancy. So targeted biopsy and histopathological examination is required for such lesions.
KEYWORDS: xanthelesma, upper GI endoscopy, foamy cells.

INTRODUCTION: Xanthelasmas of the upper gastrointestinal tract are uncommon endoscopic lesions that may cause diagnostic confusion in patients at risk for neoplasia. Xanthelasma and xanthoma are used interchangeably when referring to solitary or discrete lesions in the GI tract.[1] Xanthelasmas, also called lipid islands, was first named in 1929 by Lubarsch and Borchardt have been reported in up to 53% of autopsy stomachs. Many reports about Gastric Xanthomas have shown its frequency of 0. 018%-0.8%. Although the clinical significance of gastric xanthelasmas is unclear, they are important lesions because they may be confused with malignant lesions. Xanthelasma is more frequent in women and its incidence increases with age. In the gastrointestinal tract xanthomas are mostly diagnosed in the lamina propria of the stomach, mainly in the antrum and pyloric region, while the esophagus, small and large intestine are very rare localizations.[2] Colonic xanthomas have been rarely reported, and most colonic xanthoma cases have been found in the sigmoid colon and rectum.[3]

Grossly, they appear as small round to oval shaped well circumscribed yellow white intramucosal nodules or plaques, size varies from less than 5 mm to 10mm in diameter, mostly occurring along the lesser curvature in the region of the antrum, where they may be single or multiple. Histologically, they consist of loosely organized aggregates of foamy histiocytes in the upper lamina propria. The nuclei are bland and the cytoplasm contains lipid, which is periodic acid-Schiff (PAS) is negative. These features serve to distinguish xanthelasma cells from a mucinsecreting adenocarcinoma, Whipple disease, and Mycobacterium avium-intracellulare infection.[4] Foam cells are CD68 positive lipid-laden macrophages without mucin or pigment.

Foam cell aggregation including fat-loaded macrophages is observed in diverse conditions such as Whipple's disease, melanosis coli, malacoplakia, xanthogranuloma, hereditary metabolic storage disorder, and others.[5] The histologic appearance of xanthomas can resemble certain malignant lesions such as clear cell type of carcinoid tumors and signet ring cell type adenocarcinoma.

The pathogenesis of xanthelasmas is unknown, although they occur with increased frequency in patients with H. pylori infection and atrophic gastritis.[6] They are commonly found in the gastric remnant after a partial gastrectomy, and it has been postulated that bile reflux is an etiologic factor. Xanthelasmas have also developed in patients with cholestasis and have regressed with relief of cholestasis.[7] Biochemical analysis reveals that xanthelasmas consist of cholesterol, neutral fat, low-density lipoproteins, and oxidized low-density lipoproteins, but are not linked to any type of inherited hypercholesterolemia. The repair of the damage produced by chronic inflammation leaves behind lipid-laden debris, which is phagocytized

By histocytes and forms foam cells. Intestinal metaplasia with bile reflux has been shown to increase cellular lipid transport. Permanent cellular change was hypothesized and supported by the fact that the lesions did not change in appearance over time.[8]

MATERIALS AND METHODS: We present 4 cases of xanthalesma of upper gastrointestinal in patients who referred to endoscopy department in Nagarjuna Hospital (NABH Accredited) Vijayawada. The relevant data were obtained from pathohistological reports of the patients who underwent biopsy sampling of mucosa during upper gastrointestinal tract endoscopy procedures. We included cases during the period from December 2012 to March 2015. Biopsy specimens were fixed in 10% buffered formalin. After fixation material was dehydrated in alcohol and embedded in paraffin. Sections 4-5µm thick was stained with hematoxylin and eosin (HE) for histologic examination.

CASE REPORT: CASE 1: A 72 year old man referred to endoscopic department with complaints of dyspepsia. He was a known case of diabetes and hypertension with a past history of COPD and anemia. Lipid profile showed increased triglycerides. On endoscopy there was a yellowish white nodule of size 3mm seen in the lower segment of oesophagus. Because of its location and appearance it was confused to a malignancy and targeted biopsy was done and sent for histopathological examination. Microscopically biopsy showed hyperplastic glandular epithelium with stratified squamous epithelium and areas of intestinal metaplasia are seen. Lamina propia displayed foamy macrophages and mild lymphocytic infiltrate.

CASE 2: A 41 year old woman presented with complaints of pain abdomen and dyspepsia since 10 years for which endoscopy was done. Lipid profile was within normal limits. There was a yellowish plaque of size 4mm was seen in the gastric fundus with no other lesion found (Fig. 1). Biopsy was done and histopathology showed gastric mucosa with gastric foveolae and mucinous glands. Lamina propia showed foamy macrophages and occasional lymphocytes (Fig. 2).

CASE 3: A 61 year old woman attended to hospital with complaints of abdominal discomfort and dyspepsia. There was mild increase in LDL levels on serum examination. Endoscopy was done to

rule out malignancy on which found a yellowish white nodule of size 8mm was seen in the antrum of lesser curvature. Surrounding mucosa showed moderate to severe atrophic gastritis. Biopsy was done and microscopically lamina propia showed foamy macrophages. Gastric mucosa biopsied from around xanthomas showed moderate to severe atrophic change of gastric glands

CASE 4: A 58 year old woman presented with a complaint of dyspepsia. She had past history of diabetes and hypertension with raised LDL levels. Endoscopy was done as a routine checkup and incidentally there was a nodule of size 3mm in the antrum of lesser curvature. The surrounding mucosa appeared normal. On histopathology lamina propia showed collection of foamy macrophages.

Figure 1: Gastric xanthoma: A. Endoscopic features showing yellowish white nodule near the antrum. B. Cromo picture of xanthoma.

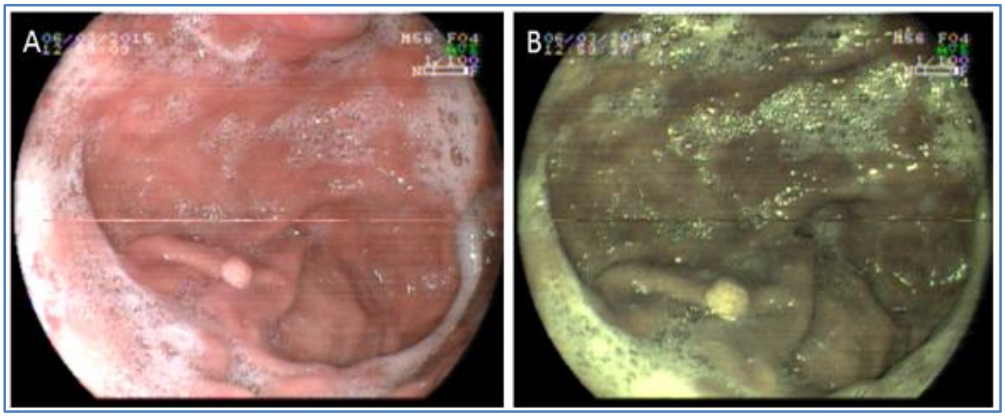

Fig. 1(A & B)

Figure 2: Gastric xanthoma: Histology with hematoxylin and eosin staining reveals the typical foamy histiocytes of gastric xanthoma in low power and high power view.

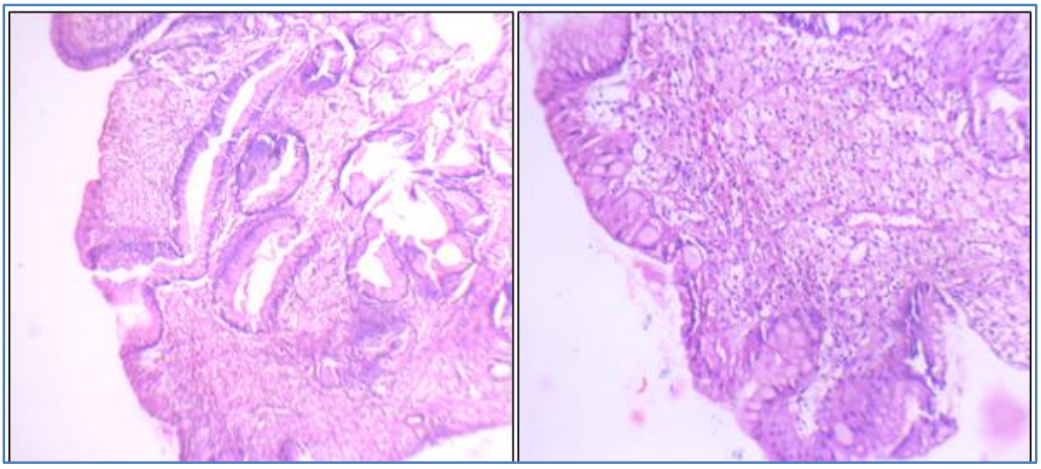

Fig. 2

DISCUSSION: Xanthelasma, xanthoma, and xanthomatosis are benign asymptomatic lesions which are found incidentally in the gastrointestinal tract.[1] However, because of their benign nature, there are few reports of gastric xanthomas in the literature and their clinical significance still remains unknown.

Gastric xanthomas tended to increase with age. In our cases all patients are of increased age and three of them are females. Its presence may be a manifestation of a metabolic disturbance, such as hyperlipidemia, although it usually represents an isolated phenomenon. Coates et al. pointed out lipid metabolism abnormality as the cause of xanthomas since gastric xanthomas disappeared after treating hyperlipidemia detected in two patients.[7] Isotomo et al. reported that gastric xanthomas were not related with diabetes mellitus, hypercholesterolemia, and skin lesions. In our cases 2 patients had raised serum cholesterol levels.

Yi et al. indicate that the mucosal atrophy is significantly associated with the presence of xanthomas.[9] Gastric xanthomas in the elderly arise from the mucosa with atrophic change in most cases, which may have a disturbance of local lipid metabolism, and that the presence of gastric xanthomas may be a marker of the pathological aging change of gastric mucosa.[10] In our cases adjacent mucosa was not included in biopsy. Few studies described association of xanthoma cell proliferation with adenocarcinoma of stomach. The distribution of the xanthoma cells in the stroma corresponded closely with that of the cancer cells.

CONCLUSION: There are few reports of gastric xanthomas in the literature. We here present four cases of xanthelesma of gastrointestinal tract which are rare lesions. On endoscopy it may mimic malignancy and inexperienced clinicians may be confused. On histopathology foamy cells may sometimes resembles signet ring cells as seen in malignancy. So targeted biopsy and histopathological examination is required for such lesions. When a patient is diagnosed with GI xanthomatosis, no specific treatments or routine endoscopic follow-up are currently recommended, with the exception of cases presenting with concomitant diseases (i. e., chronic gastritis, peptic ulcers)

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Date of Submission: 16/04/2015.
Date of Peer Review: 17/04/2015.
Date of Acceptance: 23/04/2015.
Date of Publishing: 04/05/2015.