Case Report

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A case of Synchronous Multifocus Gastric Adenocarcinoma

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ABSTRACT

Synchronous neoplasms are defined as two or more primary tumors identified in the same patient, at the same time, in the same organ or in different organs. Here we present an interesting case of Synchronous Multifocus Gastric Adenocarcinoma with a concern that the diagnosis of synchronous multifocal gastric neoplasms can sometimes be missed during initial endoscopic investigations and during grossing sessions in histopathology units, making it obligatory for the surgeon and the histopathologist to be aware of such lesions.

Keywords: *Synchronous Multifocus Gastric Carcinoma, Endoscopic Mucosal Resection, Endoscopic Sub-mucosal Dissection.*

Introduction

Synchronous neoplasms are defined as two or more primary tumors identified in the same patient, at the same time, in the same organ or in different organs (1). Synchronous tumors are characterized by the presence of different histological features with no physical connection between the two tumors and no metastasis between the two tumors (2). The North American Association of Central Cancer Registries (NAACCR) classifies multiple primary tumors into 2 categories: Synchronous, in which cancers occur at the same time and Metachronous in which cancer follows in sequence that is more than two months apart (3). Synchronous multifocal gastric carcinomas have a rare occurrence and the present case is one of the very few cases reported in Jammu region.

Case Report

A 65 year old man presented to the Surgical OPD of ASCOMS hospital, Jammu, with complains of nausea, recurrent episodes of vomiting and weakness. CBC was done, reports revealed anemia with a hemoglobin of 7g/dl, urine examination was unremarkable, LFT, KFT were within limits, stool test for occult blood was positive. This gave an initial suspicion of malignancy. Endoscopy revealed a small growth measuring about 0.5×0.9cm just below the GE junction and a circumferential growth measuring 3×4 cm at the antrum, causing luminal narrowing. A biopsy was taken from both the growths, which later proved to be adenocarcinomas. A CECT was also performed. CECT revealed no thickening in the region of GE junction and a circumferential, irregular, mildly enhancing, wall thickening, involving approximately 4.5 cm long segment, having maximum thickness of 11.5mm, narrowing the lumen was seen in the antrum of the stomach. Along with this, 4 subcentric, perigastric lymph nodes were also seen. After taking patients' consent a total gastrectomy with feeding jejunostomy under GA was performed and the specimen was taken to the histopathology unit for further evaluation.

On gross examination, a small ulcero-proliferative growth measuring 1.5×1cm was seen near the GE junction (fig.1) and a circumferential growth was identified at the antrum measuring 4.5×3(fig.1). 8 lymph nodes were identified from the lesser and the greater curvature varying from 0.5 cm to 1.5 cm in diameter.

On complete microscopic examination, the growth near the GE junction showed moderately differentiated adenocarcinoma with papillary and glandular differentiation, infiltrating the superficial smooth muscle (fig.2) and the growth at the antrum showed poorly differentiated adenocarcinoma, with extensive smooth muscle infiltration, reaching upto serosa (fig.2). Perineural infiltration was seen. There was no lymphovascular invasion. 3 out of 8 lymph nodes identified, showed metastatic deposits. Surrounding mucosa showed no tumor or any, metaplastic change. Resection margins were free from tumor.

The post operative course was uneventful and the patient was discharged on 14th day after surgery. He is under regular follow-up on outpatient basis.

Discussion

Synchronous multifocus gastric carcinoma accounts for 6-14% of all early gastric cancer(4-7). The high incidence has been attributed to the recent advances in endoscopic techniques and therapeutic modalities like Endoscopic Mucosal Resection (EMR) and Endoscopic Sub-mucosal Dissection (ESD). These therapies conserve the function but after resection a large quantity of gastric mucosa remain, which can give rise to further cancers (8). According to Nasu

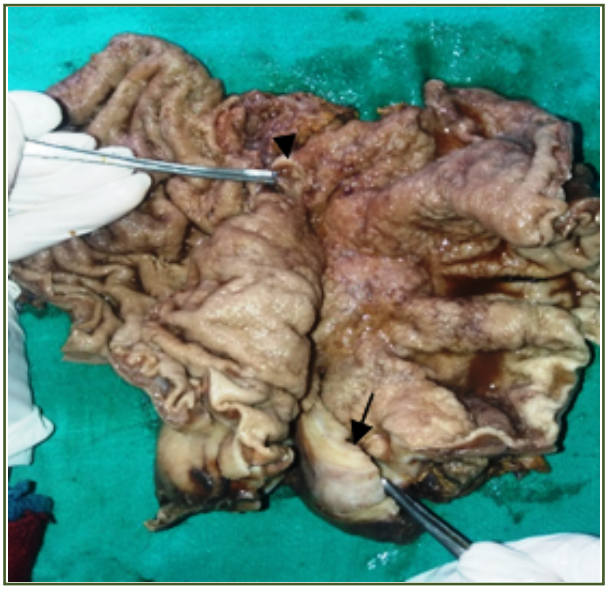

Fig.1: showing an Ulcero-proliferative growth at GE junction(arrow head) and a Circumferential growth narrowing the lumen at antrum of stomach (arrow).

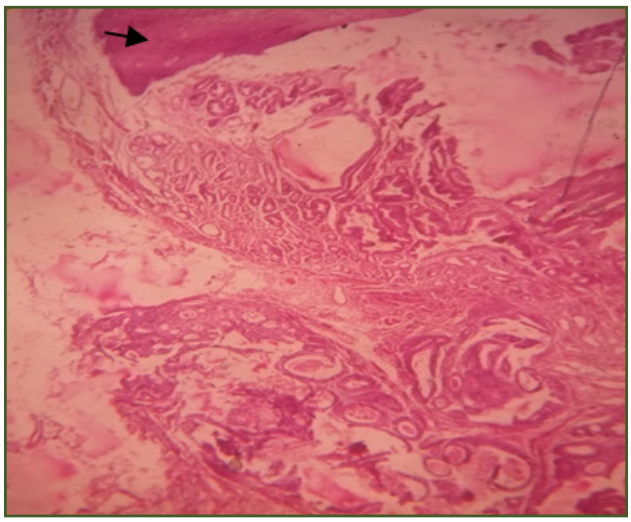

Fig. 2: showing uninvolved Squamous epithelium (arrow) from GE junction and underlying Moderately differentiated adenocacinoma.

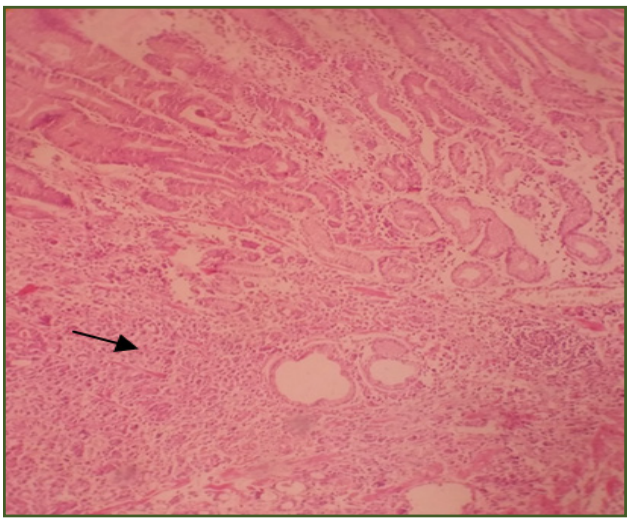

Fig. 2b: 100X Showing Normal gastric glands and Poorly differentiated adenocarcinoma(arrow) at the antrum of stomach.

et al (8) 11% patients developed synchronous multifocal gastric carcinoma within 1 year of initial EMR. Similarly in a study by Taro Isobe et al (9) the incidence of SMGC was 10.9%. So, it is important to identify patients who are at high risk of developing multiple gastric lesions because of the complexities that are involved in fully diagnosing and treating the patients using these advanced techniques. In present case the patient was diagnosed simultaneously after endoscopic biopsy .

SMGC occurs more commonly in elderly patients as is seen in the present case also. Taro Isobe et al explained the pathogenetic importance of intestinal metaplasia (10) in development of gastric carcinoma in elderly patients, as gastric glands generally show atrophic changes with a concomitant increase in intestinal metaplasia in stomach of elderly people. Although in present case, no metaplastic change could be seen.

Patient with family histoy of gastric carcinoma have been reported to have high incidence of gastric carcinoma. (11,12) Similar history was reported by our patient. This may be attributed to genetic or environmental factors.

Smoking and alcohol consumption have been reported to be risk factors for gastric cancers. (13,14,15) Morita et al (16) found no significant association between the occurrence of multiple gastric cancers and either of these factors.(16) However, Taro Isobe et al (9) found significant differences in smoking and drinking habits between patients with SMGC and those with single gastric cancer based on univariate analysis, but none of these risk factors were found to be independent risk factors in multivariate study. Hence the effect remains controversial. In the present case the patient was neither a smoker nor an alcoholic. Thus the effects of these factors cannot be attributed to the development of cancer in the present case.

In studies by Otsuji E et al, Morita et al and Nasu et al(17,18,19), most SMGC's were shown to have differentiated type and mostly both primary and secondary lesions were of same histologic type(17). In present case, both lesions were of same histological type but different histological grades.

A total gastrectomy has been recommended for the treatment of multiple gastric cancers as the remnant stomach of patients who have undergone a partial gastrectomy is at increased risk for ongoing carcinogenesis (20). In present case the patient underwent a total gastrectomy and since 1 year is on follow up and is doing well.

Conclusion

We conclude by saying that the incidence of Synchronous multifocus gastric carcinomas is increasing and owing to their small size or the observers' neglect, these lesions are likely to be missed in preoperative or intra-operative diagnostic assessment. Thus we must put efforts for the diagnosis of gastric cancers in early stages and must be aware of multifocal gastric carcinomas during endoscopic examinations and also during grossing sessions in the histopathology units.

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Competing Interests

This case report bears no competing interests.

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