GASTRIC COLLISION TUMOUR PRIMARY GASTRIC ADENOCARCINOMA AND PRIMARY GASTRIC EXTRANODAL MARGINAL ZONE (MALT) LYMPHOMA

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Abstract:
We report a case of a 61 year old male with a gastric collision tumor consisting of a primary gastric adenocarcinoma and a primary gastric extranodal marginal zone (MALT) lymphoma. The association of adenocarcinoma with a MALT lymphoma synchronously has been reported extensively however a collision tumour is extremely rare with no case reports from India. These cases are difficult to diagnose preoperatively and pathological identification of the dual components is often the only method of diagnosis.

Keyword: Adenocarcinoma, Collision tumour, Gastric, Helicobacter pylori, MALT, synchronous

CASE REPORT:
GASTRIC COLLISION TUMOUR: PRIMARY GASTRIC ADENOCARCINOMA AND PRIMARY GASTRIC EXTRANODAL MARGINAL ZONE (MALT) LYMPHOMA

Introduction:
Collision tumours are defined as two juxtaposed histologically distinct malignant neoplasms without admixture or intermediate-transition cell population [1]. These tumors are rare and difficult to diagnose preoperatively and pathological identification of the dual components is often the only method of diagnosis. Gastric cancer was the fourth most common malignancy in the world in 2008, with nearly 72% of new cases occurring in developing countries of which primary gastric lymphomas form only a very small fraction [2, 4]. Primary gastrointestinal lymphomas are exceedingly rare and constitute only about 1-4% of all gastrointestinal malignancies, however gastrointestinal tract is the most common extranodal site involved by lymphoma accounting for 5-20% of all cases [4]. The sites consistently involved are the stomach followed by small intestine and ileocaecal region. Gastric lymphoma accounts for 3-5% of all malignant tumors of the stomach [4]. Extranodal marginal zone B cell lymphoma of mucosa associated lymphoid tissue (MALT lymphoma)
occurs in a number of extranodal sites including both mucosal such as gastrointestinal, lung, salivary gland, thyroid, ocular adnexa and liver, and non-mucosal organs like orbit and skin [3, 4]. These organs interestingly are devoid of any organized lymphoid tissue and lymphoma at these sites arises from MALT acquired as a result of chronic inflammatory or autoimmune disorders such as Helicobacter pylori associated chronic gastritis, lymphoepithelial sialoadenitis and Hashimoto’s thyroiditis [3, 4]. Synchronous gastric adenocarcinoma and MALT lymphoma has been extensively studied with many international publications (6, 7, 8, 9, 12, 13) with few in reference to morphological features (8) and correlation to Helicobacter pylori infection (11). However, to our knowledge this is the first report of a primary collision tumour in the stomach comprising of gastric adenocarcinoma and extranodal gastric MALT lymphoma from India.

Case report:
A 61 year old male, presented with dyspeptic symptoms, generalized weakness, loss of weight and appetite for 6 months. Gastroscopy showed a globular mass of ~ 3 cm with overlying ulcerated mucosa in the proximal body at 50 cm, projecting from the greater curvature. The gastroscope mucosal biopsy was reported as moderately differentiated adenocarcinoma. Helicobacter pylori organisms were present. Computed tomography imaging showed a 3.5x3x3 cm polypoid mass projecting into the lumen of the body of stomach along the greater curvature with significant adenopathy in the omentum along the lesser and greater curvature. The patient underwent a subtotal gastrectomy. Grossly, the subtotal gastrectomy specimen measured 15cm along the greater curvature and 7cm along the lesser curvature. Gross examination revealed two tumours (Figure 1, A), one was a polypoid tumour, 3x2.5x2.5 cm on the greater curvature with a greyish white, soft, cut surface, abutting which was seen a marked band-like thickening of the wall of stomach, 2x 2.5cm. The tumours appeared to infiltrate the wall of the stomach grossly. There were 22 subpyloric and greater omental lymph nodes seen with greyish brown firm cut surface, few replaced by tumour. Microscopic examination of the tumour sections (Figure 1, D) revealed a neoplasm composed of nests, complex and fused glandular structures lined by malignant epithelial cells with moderately pleomorphic, hyperchromatic nuclei and prominent nucleoli exhibiting mitotic activity. Subadjacent sections show gastric wall (Figure 1, E,F) transmurally infiltrated by another tumour composed of sheets and nodular aggregates of medium sized centrocyte-like cells with irregular cleaved nuclei, fine chromatin, inconspicuous nucleoli and moderate amounts of pale cytoplasm. Interspersed large cells with vesicular nuclei and prominent nucleoli resembling centroblasts, plasma cells and monocytoid B-cells are also present. There was a sharp demarcation between the two tumours (Figure 1, B,C). On immunohistochemistry, the lymphoid cells were CD20 positive and negative for CD3, CD5, CD23 and CD10. Several CD3 positive cells are seen in the background. The MIB-1 labelling index was 30%. 4 out of 22 lymph nodes showed metastatic tumour deposits. The patient had an uneventful post-operative period and is currently being treated by medical oncology.

Discussion:
A large case series from Korea [6], showed that out of 6012 cases of gastric adenocarcinoma, 5 cases (8.3%) had gastric adenocarcinoma and MALT lymphoma (4 synchronous and 1 collision tumour).
Case reports and small case series of synchronous tumours with primary gastric adenocarcinoma and MALT lymphoma have been published (6, 7, 8, 9, 12, 13), however, reports on collision tumour involving primary gastric adenocarcinoma and MALT lymphoma have been sparse [6, 7] with none from India. Reports have shown that synchronous adenocarcinoma is predominantly of the intestinal type [6] as in our case with a very occasional report of signet ring cell carcinoma [7]. The close association between Helicobacter pylori infection and gastric malignancies, not only with adenocarcinoma but also with lymphomas has been studied and reported extensively. However, few studies have also shown lack of associated with Helicobacter pylori [7, 9, 10]. One study that has enlisted 32 such gastric synchronous tumours reported in Western (19 patients) Vs Eastern hemisphere (13 patients) has shown that in comparison to the Western countries, the East has a higher incidence of H. pylori infection [9]. One study [8] has shown that the adenocarcinoma was smaller and infiltrated less deep than the coexisting MALT lymphoma which is similar to the findings in this case. Other studies have also shown a similar histological feature [7, 9, 11]. The prognosis of patients with collision of primary gastric lymphoma and adenocarcinoma is not known due to the lack of large series and long-term follow up. In conclusion, collision tumours are rare, and we report one such case of a primary gastric adenocarcinoma and extranodal marginal zone lymphoma.

Bibliography:
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