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CASE REPORT

Solitary Jejunal Metastasis from Carcinoma Pyriform Fossa presenting as Intestinal Obstruction

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ABSTRACT

Metastatic involvement of small intestine from a head and neck primary is a rare occurrence and carries an unfavourable prognosis. Small bowel metastases usually present with obstruction, perforation or bleeding. Small bowel obstruction due to a metastatic stricture is uncommon and mostly occurs as part of generalized carcinomatosis. Rarely, it selectively affects in the form of a solitary malignant stricture.

We report the first case in medical literature of a patient presenting with small bowel obstruction due to a solitary malignant jejunal stricture caused by metastasis from a primary squamous cell carcinoma of the pyriform fossa, four years after the primary tumor was diagnosed and treated with radiotherapy. To the best of our knowledge, there are no reports of primary tumors of hypopharynx metastasizing to jejunum and presenting antemortem. The rarity of intestinal obstruction as an initial manifestation of metastatic dissemination of a hypopharyngeal malignancy as well as its poor prognosis has been discussed.

Keywords: Small intestinal metastasis, Carcinoma pyriform fossa, Malignant jejunal stricture, Squamous cell carcinoma.

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INTRODUCTION

Malignancies of the head and neck region spread predominantly by local invasion of the adjacent structures and dissemination via lymphatic channels. Hematogenous spread usually involves the lungs, bone and liver. Very rarely, head and neck primaries metastasize to small bowel.

We report the case of a 50 years old male presenting with small bowel obstruction from a solitary jejunal metastatic stricture arising from a primary squamous cell carcinoma of pyriform fossa. This is the first report of a hypopharyngeal malignancy metastasizing to jejunum and presenting antemortem.

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CASE REPORT

In September 2010, a 50 years old male presented with colicky abdominal pain, intermittent vomiting and constipation for 2 months and a history of significant weight loss. He had been a chronic smoker for more than 30 years. He gave past history of a persistent painless neck swelling which was diagnosed as malignant in 2006. On retrieval of past records, it was discovered to be a malignancy of the pyriform fossa region in the hypopharynx. Hematoxylin-eosin stained slides were retrieved and microscopic examination showed moderately differentiated squamous cell carcinoma of the pyriform fossa (Fig. 1). Patient had been subjected to radiotherapy, and was apparently asymptomatic since then.

Physical examination revealed pallor. Rest of the general examination was normal. Abdominal examination revealed no organomegaly, free fluid, palpable mass or tenderness. Bowel sounds were exaggerated.

Preoperative investigations were unremarkable except anemia. Chest radiograph showed changes of chronic obstructive pulmonary disease. Computed-tomography (CT) scan abdomen revealed few enlarged mesenteric nodes and prostatomegaly.

An exploratory laparotomy was carried out. Perioperatively, a solitary annular jejunal stricture was seen four feet from the duodenojejunal junction. The proximal part of small bowel was distended whereas the distal part was macroscopically normal. Few mesenteric nodes were enlarged. Caecum contained faecolith. Intraoperatively there was no evidence of visceral metastasis or peritoneal seedlings. Excision of the jejunal stricture was done followed by jejunojejunal anastomosis. Mesenteric nodes were also excised. Because of its rarity, metastatic disease as a cause of jejunal obstruction in a patient who had been in remission for his primary cancer, was not immediately suspected and it was known only during histopathological examination of the resected specimen.

On histopathological examination, grossly the segment of jejunum measured 4 cm in length. On cutting a stricture of about 2 cm length was seen constricting the lumen. At one end of the jejunal segment, the mucosa showed loss of rugosities (Fig. 2). No obvious ulceration was seen. The serosal surface appeared unremarkable. Microscopic

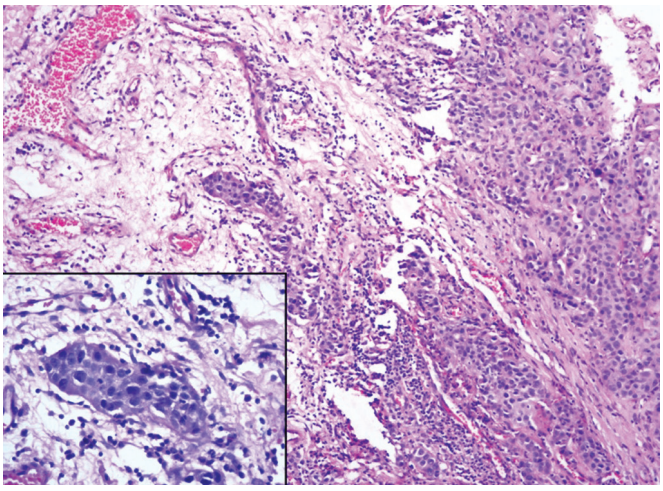

Fig. 1: Pyriform fossa showing nests of squamous cells infiltrating the subepithelial connective tissue (H and E, ×100). Inset shows high power view of the same (H and E, ×400)

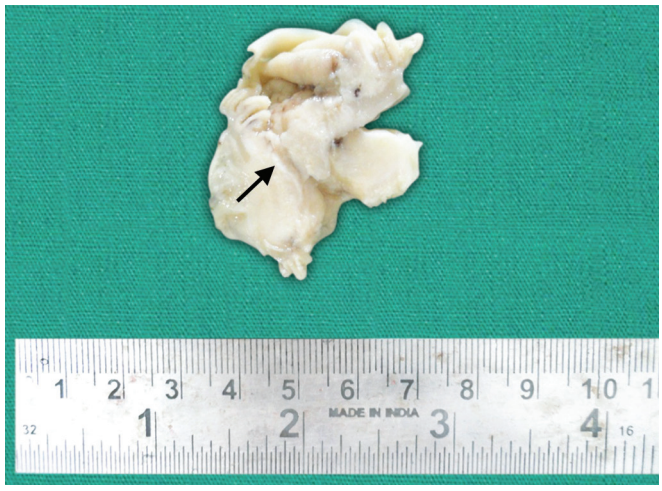

Fig. 2: Gross appearance of the segment of jejunum showing stricture (arrow) with normal mucosal folds seen at one end

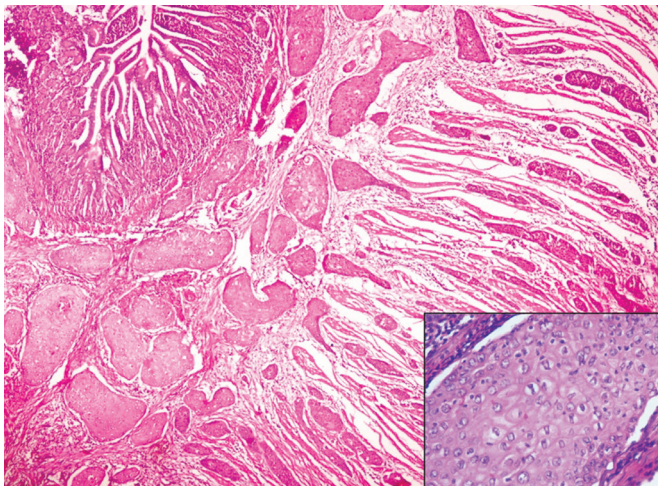

Fig. 3: Photomicrograph of jejunum showing nests of neoplastic squamous cells infiltrating the serosa, muscularis propria and submucosa (H and E, ×100). Inset shows high power view of a nest of squamous cells (H and E, ×400)

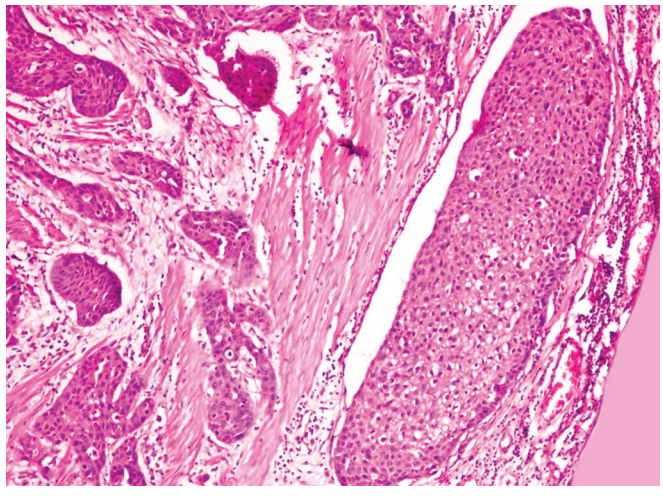

Fig. 4: A tumor embolus within a lymphatic vessel and nests of malignant squamous cells in the serosa and muscularis propria (H and E, ×100)

examination revealed nests of malignant squamous cells infiltrating the serosa, muscularis propria and submucosa. The mucosa was unremarkable. On higher power the squamous cells showed a variable degree of pleomorphism (Fig. 3). Mitoses were present. Evidence of lymphovascular invasion was seen (Fig. 4). The mesenteric nodes showed evidence of metastatic squamous cell carcinoma (Fig. 5).

The patient made an uneventful postoperative recovery and was subsequently discharged. On follow-up, the patient survived for 5 months postsurgery and expired in February 2011.

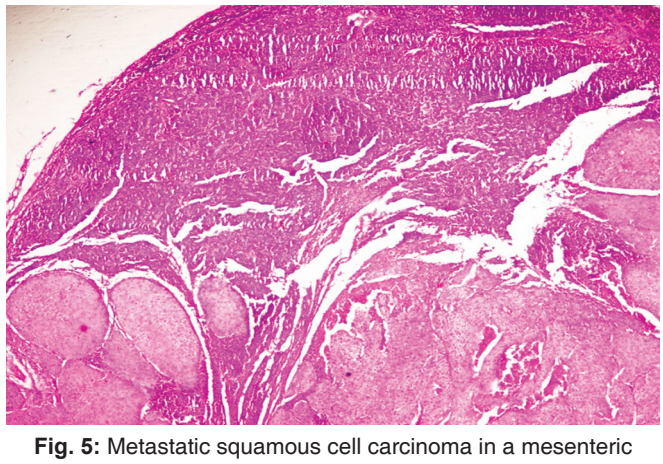

Fig. 5: Metastatic squamous cell carcinoma in a mesenteric lymph node (H and E, ×100)

DISCUSSION

The majority of hypopharyngeal cancers occur in the pyriform fossa. The time between initial symptoms and diagnosis is longer than that for other head and neck cancers because of relatively few early symptoms and the difficulty of physical examination in this region. Thus, they are usually advanced at presentation and the rate of metastasis is high. However, metastasis to the small bowel from carcinoma pyriform fossa has never been reported in literature.

Metastatic involvement of small bowel accounts for 10% of all small bowel malignancies.[1,2] The majority of these metastatic tumors come from adenocarcinoma primaries; squamous cell carcinoma constitutes a very small proportion of all metastatic lesions.[2] Idelevich et al reviewed literature and found that between 1988 and 2005, only 36 cases of small bowel metastasis from extra-abdominal primaries have been reported. The most common primary malignancy in these cases was lobular breast carcinoma (47%), followed by carcinoma lung (11%) and malignant melanoma (8%).[3] De Castro et al concluded that the distal part of the ileum was the commonest location of the metastatic lesions of the small bowel.[4]

In the study conducted by Farmer and Hawk, the interval between the original neoplasm and the small bowel metastasis ranged from 1 year to more than 10 years.[5]

Metastasis to small bowel from a head and neck primary is a very rare occurrence and is usually detected on postmortem examination.[6,7] On review of literature it was concluded that among the few reported cases of small bowel metastasis from a head and neck primary, majority of them were from carcinoma larynx.[6,8,9]

Secondary involvement of small intestine occurs almost always as part of a generalized spread of the primary malignancy with multiple intraperitoneal seedlings and ascites.[5] Rarely, the secondary tumor may be in the form of a solitary lesion as in the present case. Farmer and Hawk found only 14 cases of discrete lesions of the small bowel in a series of 87 metastatic carcinoma patients.[5] Cases with such discrete lesions are much more amenable to palliative relief by surgical means than the cases presenting with diffuse peritoneal involvement.[4]

Patients usually present with small bowel obstruction or perforation peritonitis or rarely with gastrointestinal bleeding. Obstruction is the commonest presentation.[4]

Most of the small bowel metastases present as nonspecific chronic pain abdomen or as a surgical emergency, and diagnosis is made at laparotomy and sometimes only after histopathological examination. Due to advanced presentation, there is not much literature on their preoperative assessment. Like primary small intestinal tumors, symptomatic lesions may be investigated radiologically using small bowel follow-through, enteroclysis, ultrasonography or a CT scan.[10] However, all are relatively insensitive for early diagnosis as in the present case.

Discovering a small bowel metastasis in the context of a head and neck malignancy is suggestive of a poor prognosis. Patient at presentation is usually in the terminal stages of the disease. Guillem et al analyzed a 10-patient series which showed that small bowel metastases from head and neck cancers occurred more commonly in old male patients (mean age 71 years). In these 10 patients, death occurred within 8 months following diagnosis, either due to postoperative complications or neoplastic progression.[1]

Treatment options in patients with symptomatic metastases are very limited. It usually involves either a palliative intestinal resection followed by end-to-end anastomosis or a bypass surgery to relieve obstruction.

A history of a previous malignant lesion, regardless of site, treatment or the time elapsed between occurrence of primary lesion and the onset of symptoms from the secondary lesion, is strongly suggestive of a metastatic lesion.[4] In the present case, since the infiltration by squamous cells was seen in all layers of the jejunum upto the submucosa but sparing the mucosa, along with lymphovascular invasion and infiltration in adjoining mesenteric lymph nodes, the diagnosis of a malignant squamous cell lesion arising primarily from the intestine was ruled out. The significant history of a hypopharyngeal squamous cell malignancy and the fact that such malignancies are high grade at presentation and show a high rate of metastasis further indicated the possibility of a metastatic lesion in the jejunum.

This report highlights the need for the inclusion of small intestinal metastases in the differential diagnosis of bowel obstruction in a patient with past history of a carcinoma pyriform fossa. Although small bowel metastasis from a primary head and neck tumor is extremely rare, still it is known to occur. So, the clinician should be vigilant on any unexplained abdominal symptoms in patients with known malignancy of the head and neck region or a past history of such a malignancy. Although prognosis is extremely poor, surgery offers the best palliation. The aim of management is to afford the best quality of life as possible.

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