A Case of Jejunal Adenocarcinoma Diagnosed by Preoperative Double Balloon Enteroscopy

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Despite a thorough history, physical examination, and complete diagnostic workup, the correct diagnosis of small-intestinal malignancy is established preoperatively in only 50% of cases; an exploratory laparotomy is often required. However, recent advances in endoscopic technologies, such as double-balloon enteroscopy (DBE), have been shown to facilitate the preoperative diagnosis of these tumors. Confirmation of malignancy using DBE in equivocal cases may greatly increase both patients’ acceptance of surgery and the confidence of the physician planning a surgical resection. We describe herein the case of a 53-year-old woman with a stage I jejunal adenocarcinoma that was diagnosed by DBE and treated by laparoscopic jejunectomy. Histopathological examination revealed a stage I jejunal adenocarcinoma (T2N0M0) without muscularis propria invasion, lymphovascular invasion, or lymph-node metastasis. (Gut and Liver 2009;3:311-314)

Key Words: Adenocarcinoma; Double balloon enteroscopy; Jejunum

INTRODUCTION

Small intestinal malignancies have been diagnosed in advanced stages due to their non-specific clinical presentations as well as difficulties with endoscopic examinations of the small intestine. In recent years, the preoperative diagnosis for small intestinal malignancy has been dramatically improved due to the advance in endoscopic technologies such as double-balloon enteroscopy (DBE).1,2 Here, we describe a 53-year-old woman with a stage I jejunal adenocarcinoma diagnosed by DBE with a review of the relevant English literature with specific reference to their diagnostic modalities.

CASE REPORT

A 53-year-old woman presented to our hospital with a 13-month history of recurrent vomiting, which aggravated in frequency 10 days ago. Other complaints included anorexia, epigastric pain, and weight loss of 3 kg over 3 months. Findings of upper endoscopy performed at a primary clinic 5 days ago were normal. Her diet, medication, and past medical history were unremarkable. She appeared well, and physical examinations showed no abnormalities. Laboratory findings revealed a white cell count of 8,900/mm³, hemoglobin of 14.1 g/dL, and hematocrit...
Fig. 2. (A) Double-balloon enteroscopy revealed a circumferential infiltrative mass in the proximal jejunum. (B) Note the submucosal India ink injection that was used to mark the tumor location to facilitate subsequent laparoscopic surgery.

Fig. 3. Macroscopic examination of the lesion revealed it to be a circumferential, infiltrative tumor measuring 45×25×8 mm.

Fig. 4. Histological examination confirmed that the tumor was a moderately differentiated adenocarcinoma, without invasion through the muscularis propria (H&E stain, ×2). There was also no lymphovascular invasion or lymph-node metastasis.

of 40.6%. Findings of routine blood chemistry, serum carcinoembryonic antigen and serum carbohydrate antigen 19-9 were within normal limits. Abdominal computed tomography (CT) revealed significant localized thickening of the jejunal wall with marked dilatation proximal to the lesion (Fig. 1), but no mass lesions or abnormal findings in other organs. The radiological impression for these CT findings was a jejunal cancer or benign stricture. As there was no clue to differentiate these two diagnoses, we decided to perform an endoscopy for the direct visualization of the lesion and a preoperative histological diagnosis, if possible. Push enteroscopy was initially performed because the lesion was observed at proximal jejunum, however, visualization of the lesion by push enteroscopy was impossible because of the acute angulation of a bowel loop. For the next step, DBE using oral route was done under the conscious sedation with an intravenous bolus injection of midazolam 2 mg and propofol 20 mg. DBE of the proximal jejunum revealed an infiltrative tumor causing concentric luminal narrowing (Fig. 2A). Extensive biopsy samples were obtained, and the tumor location was marked using a hemoclip and injecting India ink (Fig. 2B). No immediate or delayed complications occurred during DBE. Endoscopic biopsy demonstrated a moderately differentiated adenocarcinoma. Laparoscopic partial jejunectomy and removal of regional lymph nodes were performed, and a 45×25×8 mm, constricting tumor (Fig. 3) was identified at a site 20 cm distal to the ligament of Treitz. Histopathological examination revealed a stage I jejunal adenocarcinoma (T2N0M0; classified according to the American Joint Committee on Cancer staging system); without invasion through the muscularis propria, lymphovascular invasion or lymph node metastasis (Fig. 4).

Postoperatively, she was stable and discharged in satisfactory condition.

DISCUSSION

Small intestinal adenocarcinoma accounts for 0.3% of all malignancies of the gastrointestinal tract and 30% to