CASE REPORT

Duodenal adenocarcinoma masked by acute cholecystitis and peptic ulcer disease

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SUMMARY

We report a case of duodenal adenocarcinoma, who presented to the emergency ward, with features of acute cholecystitis and peptic ulcer disease. Ultrasonography and upper gastrointestinal (GI) endoscopy failed to pick up duodenal pathology, previously two times. Only third time endoscopy showed circumferential thickening of first and second part of the duodenum. On diagnosis laparoscopy mass at the D1/2 junction with apparent involvement of head of pancreas was noted. Pancreatoduodenectomy was performed.

Histopathological examination showed it to be primary duodenal adenocarcinoma with extension in to head of pancreas. His postoperative course was uneventful. After 4-month follow-up the patient remained well.

BACKGROUND

Primary duodenal adenocarcinoma is a rare tumour with a poorly defined natural history and prognostic factors. It represents 0.3–1% of all gastrointestinal tumours and 25–35% of malignant tumours of the small intestine.^{1–3} It presents with non-specific symptoms, and for this reason the diagnosis is often delayed. Little is known about its biology, and fundamental questions regarding the pattern and significance of metastatic spread remain unanswered.² Primary duodenal adenocarcinoma is a serious problem for the surgeon because of difficulty in obtaining an early diagnosis and standardising basic tenets for a suitable surgical approach.³

CASE PRESENTATION

A 45-year-old man presented to the emergency ward with a history of haematemesis, intermittent pain in the epigastrium and right hypochondrium. Except for peptic ulcer disease since 1 year his medical history was insignificant. He was admitted several times with the same complaint previously. On examination, the patient was pale and there was right hypochondrium tenderness. Ultrasound sonography test (USG) of the abdomen showed it to be acute cholecystitis and upper gastrointestinal (GI) endoscopy revealed oesophagitis with a gastric ulcer in the lesser curvature. The patient was treated with a standard antiulcer treatment and during the course the patient improved and was discharged home with oral antiulcer medication. The same patient within a month of discharge came to the emergency ward with the same previous complaints. USG of the abdomen showed cholelithiasis and this time upper gastrointestinal (UGI) endoscopy showed a circumferential thickening at the junction of the first and second part of

the duodenum. A mucosal biopsy showed non-specific inflammation. CT revealed a well differentiated moderately enhancing soft tissue density mass lesion with adjacent circumferential wall thickening involving first and second part of the duodenum with adjacent fat stranding.

DIFFERENTIAL DIAGNOSIS

Acute cholecystitis and peptic ulcer disease.

TREATMENT

Having explained the findings, the patient agreed to undergo diagnostic laparoscopy. A 2 cm stenotic mass at the D1/2 junction with apparent involvement of the head of pancreas was noted. Whipple's operation was performed. The procedure was started laparoscopically, but due to difficulty during resection of pancreatic head it was converted to open procedure.

OUTCOME AND FOLLOW-UP

Pathological examination of the surgical specimen found a 2.5×9×9 cm mass involving the duodenum first and second part extending into the head of pancreas (figures 1 and 2). On microscopy an adenocarcinoma (mucin secreting) clear cell type extending into the head of pancreas was noted. The rest of the pancreas, common bile duct, liver, stomach and peritoneum were not affected. None of the 11 sampled lymph nodes were involved. The diagnosis of primary adenocarcinoma of the duodenum was established (pT4N0M0). His postoperative course was uneventful. After 4-month follow-up the patient remained well.

DISCUSSION

Adenocarcinoma of the duodenum is the least common of the periampullary tumours.⁴ The prognosis for duodenal adenocarcinoma is reported to be a 5-year survival rate of less than 30%.⁵ Thus, the prognosis is very poor in patients with an advanced stage.⁶ Hence, it is very important to detect duodenal adenocarcinoma in the early stage. The non-specific clinical presentation, which often mimics benign conditions, is the main pitfall for an early diagnosis of duodenal cancer.⁷ The index of suspicion for the tumour remains very low, and the lack of specific symptoms or physical signs substantially delays diagnosis and treatment.⁸ Symptoms associated with duodenal carcinoma are abdominal pain, weight loss (each present in 74% of cases), vomiting and anaemia (each present in 55% of patients).⁹ These symptoms are non-specific, the clinical picture often mimicking peptic ulceration.

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Figure 1 Pancreaticoduodenectomy specimen.

However, as in our case, there is failure to respond to ulcer healing medication. This emphasises the importance of considering rarer diagnoses, such as duodenal carcinoma, in cases where symptoms persist despite standard upper gastrointestinal investigation and antiulcer treatment. The absence of specific

Figure 2 Cut section of the specimen showing duodenal tumour infiltrating into head of pancreas.

symptoms and signs, coupled with the rarity of the condition, means that diagnosis is frequently delayed. The average time to correct diagnosis from initial consultation is between 7 and 10 months.^{10 11} Consequently, a high index of suspicion is essential if the condition is to be recognised early.

Learning points

- Clinical presentation of duodenal adenocarcinoma often mimics benign conditions.
- Failure to respond to treatment should raise suspicion.
- Early diagnosis and treatment is crucial as the prognosis is poor in advanced cases.

Competing interests None.

Patient consent Obtained.

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