

Duodenal Adenocarcinoma: 4 Cases Report

Moustapha Traore^{1,2*}, Jihane Sabar^{1,2}, Jalil Medarheri^{1,2}

¹Digestive Surgical Department B, Ibn Sina University Hospital, Rabat, Morocco

²Faculty of Medicine and Pharmacy, Mohammed V University in Rabat, Morocco

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*Corresponding Author: Moustapha Traore

Digestive Surgical Department B, Ibn Sina University Hospital, Rabat, Morocco

Abstract

Duodenal adenocarcinoma being the most common tumor of the small intestine: 33 to 48%, it remains very rare representing only 0.5% of malignant tumors of the digestive tract. Our retrospective study focused on four cases during the period 2017-2022 with an average age of 53.25 years and a sex ratio of 1M/3F. The clinical signs were varied with a predominance of cholestatic jaundice and a deterioration in general condition. The diagnosis was confirmed thanks to the endoscopy and the anatomopathological study of the biopsies carried out in all our patients. All our patients benefited from a surgical treatment, curative or palliative, which consisted of three cephalic pancreaticoduodenectomy and in one case a gastro-jejunal anastomosis. The post-operative follow-up was simple in two patients, one of our patients presented with gastroparesis which progressed well under medical treatment. In addition, we deplore a death which presented a hemoperitoneum related to a hemostasis disorder.

Keywords: Duodenal adenocarcinoma – rare tumor – Pancreaticoduodenectomy.

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INTRODUCTION

Small intestine tumors consist of adenocarcinomas (40%) and endocrine tumors (40%) which represent the main malignant tumors ahead of lymphomas and stromal tumors [1].

Among small bowel adenocarcinomas, duodenal tumors are the most common, representing about 50% of cases, followed by jejunal (30%) and ileal (20%) locations [2].

The diagnosis is often late and revealed on the occasion of complications. The new imaging methods associated with digestive endoscopy with histological study allow earlier diagnosis and a reduction in mortality.

The treatment of choice for duodenal adenocarcinoma remains surgical, using radical excision whenever possible; Pancreaticoduodenectomy (CPD).

We present a retrospective study including 04 cases of duodenal adenocarcinoma collected in the department of visceral surgery "B" of the CHU Ibn Sina of Rabat and this during the period between 2017 and 2022.

CASE STUDY

In this study we only included patients with a duodenal tumor whose histological type was a duodenal adenocarcinoma. We excluded patients with carcinoid neuroendocrine tumor, stromal tumor, ampulla Vater, periampullary adenocarcinoma and adenocarcinoma of the head of the pancreas. For each patient, we treated the following parameters: - Age - Sex - Risk factors - Reason for consultation - Clinical signs - Para-clinical - Treatment - Anatomopathological examination of the surgical specimen - L immediate and late postoperative course.

Four exploitable cases of duodenal adenocarcinoma were diagnosed in the surgery department B of the CHU Ibn Sina between 2017 and 2022.

The age of our patients oscillated between 51 and 64 years with an average age of 56 years. For four patients, there were three females, i.e., 75%, and only one male, i.e., 25%, with a sex ratio of 0.33.

None of our patients presented a risk factor including no toxic habits, no genetic predispositions or predisposing diseases.

The time between the start of the symptoms and the confirmation of the diagnosis varied from one patient to another: for the first, the duration was 02 months and 03 days, for the second, it was 26 days, for the third, it was 01 months and 10 days. For the fourth, it was 07 months and 03 days. With, in total, an average of 2.85 months.

The symptomatology varied from one patient to another: abdominal pain for 15%, exteriorized bleeding (hematemesis) 15%, vomiting 30%, jaundice 30%, diarrhea 10%.

In our series, three of our patients present an alteration of the general state with weight loss, feeling of asthenia in two patients. Presence of fever at 38.5° in one patient. Apyrexia in the other three patients. Two patients had discolored conjunctivae. We also note the presence of jaundice accompanied by scratching lesions in two of our patients.

The clinical examination found abdominal tenderness at the level of the epigastrium in two patients. A positive Murphy, detected in a patient. No palpable mass or lymphadenopathy in our four patients.

All our patients benefited from a FOGD. Tumor localization was at D2 level for all our patients, stenosing hemorrhage in one patient, ulcero-budding in two patients and ulcerated in one patient.

The anatomopathological study showed a mucinous adenocarcinoma for one patient, a well-differentiated duodenal adenocarcinoma in two patients, a moderately differentiated infiltrating and ulcerated adenocarcinoma in one patient.

As part of an extension assessment, all our patients benefited from TAP CT which objectified: duodenal thickening in the four patients, hepatic metastases in one of our patients, no carcinomatosis or pulmonary metastasis.



Figure 1: CT section showing localized thickening at D2 level (first case)



Figure 2: CT section showing liver metastases (first case)

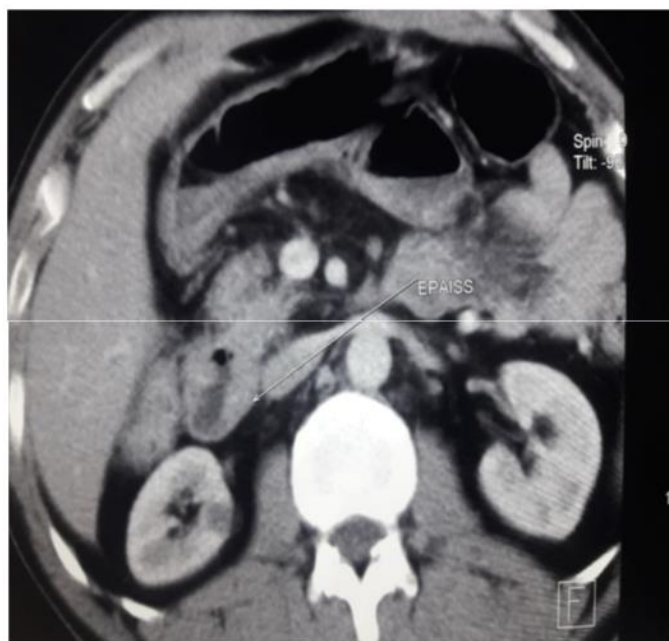


Figure 3: CT section showing parietal thickening (second case)

Bone scintigraphy was performed in one of our patients in order to explore the osteolytic lesions found on the TAP CT scan, but did not show any secondary localization.

The biological assessment revealed anemia in three patients and thrombocytopenia in two, a cholestasis syndrome and hypoalbuminemia in two patients, high tumor markers; High CA 19-9 in three patients, a low TP of 38% in one patient. All of our patients received surgical treatment.

Three of our patients, or 75%, underwent CPP with three anastomoses: pancreatico-jejunal, choledoco-jejunal and gastro-jejunal, according to the Whipple technique. One of our patients, or 25%, underwent palliative surgery due to the presence of hepatic metastases, consisting of making a gastrojejunal anastomosis.

None of our patients received neoadjuvant or adjuvant chemotherapy or adjuvant radiotherapy.

The suites were simple for two of our patients. One of our patients presented with gastroparesis which regressed under medical treatment. One of our patients presented a hemoperitoneum following a disturbance of hemostasis and which required a revision surgery and died in a table of multivisceral failure.

DISCUSSION

Duodenal cancer is a rare entity [3, 4]. It represents only 0.5% of malignant tumors of the digestive tract.

In a study of more than 400 patients with a periampullary lesion, the incidence of duodenal cancer was 4% to 6% [5]. Adenocarcinoma is the most frequent histological type [6, 3].

Adenocarcinomas are found in adults between 40 and 60 years old with a male predominance (SR is 2/1) [7, 8]. In our study, the predominance was female.

Certain diseases predispose to duodenal tumors; in familial adenomatous polyposis (FAP) the vast majority of patients develop duodenal polyps which degenerate into adenocarcinoma in 4% of cases [9, 10]. In Lynch syndrome or “hereditary non polyposis colorectal cancer”, the preferential tumor location is the duodenum in approximately 50% of cases [11]. Duodenal adenomas also pose a risk of degeneration.

At the time of diagnosis of small bowel adenocarcinomas, approximately one-third of patients present with distant metastases (stage IV) and one-third lymph node involvement (stage III) [12, 13] One of our patients presented with liver metastases.

The diagnosis is frequently made in an emergency context such as intestinal obstruction (40%) or gastrointestinal bleeding (24%) [12].

Esogastroduodenal endoscopy (EOGD) and abdominopelvic CT scan with injection of contrast medium are the two reference examinations for the diagnosis of duodenal adenocarcinoma [14].

Echo endoscopy can guide the realization of biopsies in case of tumor with deep infiltration.

CT has a sensitivity of around 85% to 95% for the diagnosis of tumor of the small intestine and a specificity of 90% to 96% [15, 16].

In addition, CT scan, like echo endoscopy, can assess the origin of the expansive process for tumors at the duodeno-pancreaticobiliary junction and assess tumor resectability [7, 4]. Our patients all underwent FOGD and TAP CT, but no endoscopic ultrasound or CT-enteroclysis.

The histological appearance of tumors of the duodenopancreatic junction does not always make it possible to differentiate between duodenal and ampullary adenocarcinomas or bilio-pancreatic. Tumors of duodenal origin have an intestinal phenotype with morphological appearance characterized by tall columnar cells forming elongated glands (similar to colorectal adenocarcinomas), while the bilio-pancreatic phenotype is defined by cells with rounded nuclei forming rounded glands (similar to the majority of biliopancreatic adenocarcinomas). The use of immunohistochemical markers can in some cases direct the diagnosis to the intestinal or biliopancreatic tumor origin, and provide information on the evolutionary prognosis of the tumor [17]. Histological diagnosis did not pose a problem in our study.

The treatment of choice for duodenal adenocarcinoma remains surgical, using radical excision whenever possible. This is above all CPD, which offers the advantage of removing the lesion and its lymphatic drainage [18]. Surgery is the only potentially curative treatment, but 40% of patients relapse [19].

For inextricable tumors, due to mesenteric vascular invasion, or major extension to neighboring organs, or peritoneal carcinomatosis or finally distant metastases, one can only use shunts, type gastro-entero-anastomoses or biliodigestive diversions, with a maximum survival of 6 months on average [20-22]. Our patients benefited from a CPP for three of them considered to be resectable, and a gastro-enteroanastomosis for one patient because of his hepatic metastases.

CONCLUSION

Duodenal adenocarcinoma is a rare malignant tumor of the duodenum, while being the most common of the small intestine, affecting mainly people of a certain age (between 40 and 60 years old), as well as people with risk factors such a genetic predisposition.

The prognosis remains gloomy given that the diagnosis remains difficult with a discreet symptomatology. The latter is posed with certainty by the histological study made thanks to biopsies during endoscopy.

Several therapeutic strategies are used, it depends on the location as well as the localized or extended form of the tumour, but surgery remains the only curative means by proceeding with a pancreatectomy-cephalic duodeno, this promises better results with better survival.

Data Availability Statement

The data that support the findings of this article are available from the corresponding author upon reasonable request.

Conflicts of interest: Drs Moustapha Traore, Jihane Sabar and Jalil Medarheri declare no conflict of interest.

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