96498_Auto_Edited-check.docx

WORD COUNT	1684	TIME SUBMITTED	14-OCT-2024 08:17PM
		PAPER ID	112319823

Name of Journal: *World Journal of Gastrointestinal Surgery*
Manuscript NO: 96498
Manuscript Type: CASE REPORT

Pathological diagnosis and clinical feature analysis of a rare case of descending duodenal mucosal adenocarcinoma: A case report

Zhang JY *et al*. Diagnosis of descending duodenal mucosal adenocarcinoma

Abstract

BACKGROUND

Mucosal adenocarcinoma of the descending duodenum is a very rare gastrointestinal tumor. Due to its low incidence, it has rarely been the focus of clinical and pathological studies. The clinical manifestations of these tumors are usually nonspecific, and they are easily misdiagnosed or missed. Pathological diagnosis is the gold standard for diagnosis, but due to the small number of cases, the relevant pathological characteristics and diagnostic criteria are not completely clear. The purpose of this study was to deepen the understanding of the diagnosis and treatment of this disease and to provide a clinical guidance.

CASE SUMMARY

A 61-year-old woman who was hospitalized with recurrent abdominal pain for more than 20 days. The patient developed epigastric pain with no obvious cause more than 20 days prior, mainly left epigastric pain and middle epigastric pain, and presented persistent dull pain without nausea or vomiting, fever or chills. The patient was treated at a local hospital, gastroscopy revealed a new lesion in the circum-intestinal cavity in the descending part of the duodenum, and pathological biopsy revealed mucous adenocarcinoma in the descending part of the duodenum. Currently, for further diagnosis and treatment, the patient is admitted to our hospital for surgical treatment for “malignant tumor of the duodenum” in the outpatient department.

CONCLUSION

Mucosal adenocarcinoma of the descending duodenum has a high misdiagnosis rate and missed diagnosis rate, clinical manifestations lack specificity, and pathological diagnosis is the main basis for diagnosis.

Key Words: Descending duodenal mucosal adenocarcinoma; Pathological diagnosis; Clinical features; Rare tumor; Case report

Zhang JY, Wu LS, Yan J, Jiang Q, Li XQ. Pathological diagnosis and clinical feature analysis of a rare case of descending duodenal mucosal adenocarcinoma: A case report. *World J Gastrointest Surg* 2024; In press

Core Tip: The pathological diagnosis and clinical features of a rare case of descending duodenal mucosa adenocarcinoma were analyzed. Through detailed pathological examination, we confirmed the histological type of the tumor, combined with the patient's clinical manifestations, imaging findings and treatment response, and comprehensively analyzed the pathogenesis, progression and prognosis of the case. The research focuses on revealing the diagnostic difficulties and treatment challenges of such rare tumors, aiming to provide references for clinicians and improve the level of diagnosis and treatment of similar cases.

INTRODUCTION

Mucosal adenocarcinoma of the descending duodenum is a rare malignant tumor of the digestive system, and its incidence is low; therefore, it is often neglected in clinical and pathological studies[1-3]. At present, the pathological features, clinical manifestations and treatment strategies are not completely clear. The diagnosis of this rare patient is often challenging because of its lack of clinical specificity, and this patient can easily be misdiagnosed or missed[4]. Given the relatively limited number of reports of this case, it is particularly important to study the pathological features and clinical manifestations of this rare tumor[5-7].

Through detailed pathological analysis and clinical evaluation of a patient with descending duodenal mucosal adenocarcinoma, this study comprehensively elucidated the characteristics of the disease and defined its diagnosis and treatment strategy. We will focus on the pathological features of the disease, including histological morphology, immunohistochemical expression and molecular biological features, to provide a more reliable basis for its diagnosis[8-10]. At the same time, we will conduct a

comprehensive analysis of the clinical manifestations of the patients, including symptoms, signs, imaging and laboratory examination results, to explore the clinical characteristics and diagnostic difficulties of the disease[11]. Through the in-depth study of this case, we hope to provide clinicians with a more comprehensive and accurate diagnostic basis and a more effective treatment strategy. It is highly important to improve the diagnosis and treatment of rare diseases and improve the prognosis of patients[12]. Through in-depth study of this rare disease, we can also better understand its pathogenesis and tumor biological characteristics and provide new ideas and directions for future disease treatment and research. Through detailed analysis of the pathological features and clinical manifestations of descending duodenal mucosal adenocarcinoma, this study comprehensively elucidated the characteristics of this disease, clarified its diagnosis and treatment strategies, and provided a more accurate diagnostic basis and treatment plan for clinical treatment to improve the prognosis and quality of life of patients.

CASE PRESENTATION

Chief complaints

There was recurrent abdominal pain for more than 20 days.

History of present illness

The patient developed epigastric pain with no obvious cause more than 20 days ago, mainly in the left epigastric and middle epigastric pain, presenting persistent dull pain, no nausea, no fever, chills, no yellow all over the body, dark urine color, black stool and other discomfort. The patient was treated in a local hospital, and gastroscopic biopsy revealed mucous adenocarcinoma of the descending part of the duodenum. Currently, the patient is seeking further treatment at our hospital. The outpatient department plans to admit "malignant tumor of the duodenum" for surgical treatment.

1

History of past illness

The patient had a history of hypertension, regular oral antihypertensive medication treatment, and well-controlled blood pressure.

Personal and family history

Nothing special.

Physical examination

There was upper abdominal tenderness; no rebound pain or muscle tension; no obvious mass in the abdomen; no liver, spleen or subcostal region; Murphy's sign (-); and no hepatic buckle pain (-).

Laboratory examinations

Histology revealed that the tumor cells exhibited a glandular tubular structure, abnormal enlargement of the nucleus, and nuclear division. Hematoxylin and eosin staining revealed deep staining of cell nuclei and uneven superficial staining of the cytoplasm. Immunohistochemical staining revealed that CK20 and CDX2 were positively expressed in tumor tissues, while CK7, CK19, carcinoembryonic antigen (CEA), carbohydrate antigen (CA) 19-9 and other markers were weakly or negatively expressed. In addition, the Ki-67 index was high, indicating that the tumor had strong proliferative activity. Combining the pathological features and immunohistochemical results, we concluded that the patient was diagnosed with adenocarcinoma of the descending duodenum mucosa. These features help to further understand the biological characteristics of this rare tumor and provide important guidance for its clinical diagnosis and treatment (Figure 1).

Imaging examinations

Abdominal computed tomography examination revealed that the intestinal wall was slightly thickened at the junction of the descending and horizontal parts of the duodenum, and the surrounding fat space was slightly blurred (Figure 2). Abdominal

magnetic resonance imaging revealed that the intestinal wall of the descending duodenum was significantly thickened and that the signal was abnormal and tended to indicate neoplastic lesions; additionally, medical examination revealed secondary intrahepatic and external bile duct dilatation, hyperdilatation of the gallbladder, and slight dilatation of the pancreatic duct (Figure 3). Electronic proctoscopy revealed that new organisms were growing in the descending part of the duodenum, and the biopsy elasticity was poor (Figure 4).

FINAL DIAGNOSIS

The pathological diagnosis was descending duodenal mucosal adenocarcinoma.

TREATMENT

We recommend that patients continue to receive treatment after surgery and undergo regular follow-up observations.

OUTCOME AND FOLLOW-UP

The patient recovered after the operation, and no recurrence was found after 3 months.

DISCUSSION

Mucosal adenocarcinoma of the descending part of the duodenum is a rare malignant tumor of the digestive system, and its pathological features are somewhat heterogeneous compared with those of other digestive system tumors[13-15]. In this study, we observed that the histological morphology of the tumor showed a glandular tubular structure, increased nuclear atypia, and obvious mitotic features. These features are similar to those of other adenocarcinomas of the digestive system but also have their own characteristics[16]. We noted that the clinical manifestations of this patient lacked specificity, and this patient was easily misdiagnosed or missed. This is similar to the clinical manifestations of other intestinal tumors, including abdominal pain, indigestion, and weight loss. Therefore, clinicians should be vigilant in the face of such

cases, combined with clinical manifestations, imaging examination, and timely pathological examination, to make a clear diagnosis[17-19].

In terms of diagnosis, we emphasized the importance of pathological diagnosis in this disease. Immunohistochemical staining revealed positive expression of CK20 and CDX2, while the expression of CK7, CK19, CEA, CA19-9 and other markers was weak or negative, which helped to rule out the possibility of other tumors and further confirmed the diagnosis of mucosal adenocarcinoma in the descending part of the duodenum[20-22]. Because this patient had a certain degree of invasion and metastasis, active treatment was needed. Surgical resection is the preferred treatment, but for advanced cases, chemoradiotherapy is also necessary[23]. In addition, we emphasize the importance of a comprehensive treatment strategy, including a combination of surgery, chemoradiotherapy, and targeted therapy, to improve treatment outcomes and patient survival[24].

In terms of clinical features, we observed a lack of specificity in the symptoms of this patient, including abdominal pain, indigestion, weight loss, *etc.*, which are similar to those of other intestinal tumors and can easily lead to misdiagnosis or missed diagnosis. Epidemiologically, adenocarcinoma of the descending duodenum is a rare disease with a low incidence and has rarely become the focus of clinical and pathological studies[25-27]. Pathological analysis revealed that the tumor tissue of this patient presented a glandular tubular structure, increased nuclear atypia, and obvious mitosis, similar to other digestive system adenocarcinomas but also had its own characteristics. In terms of immunohistochemistry, positive CK20 and CDX2 expression was detected, while weak or negative CK7, CK19, CEA, and CA19-9 expression was detected, which helped to further clarify the diagnosis. Because this patient had a certain degree of invasion and metastasis, active treatment measures were taken[28]. Surgical resection is the preferred treatment, but for advanced cases, chemoradiotherapy is also necessary. The importance of comprehensive treatment strategies, including surgery, chemoradiotherapy and targeted therapy, has been highlighted to improve the therapeutic efficacy and survival rate of patients.

CONCLUSION

This study is highly important for further understanding the pathological features and clinical manifestations of rare adenocarcinomas of the descending duodenum mucosa. Through pathological analysis, clinical evaluation and discussion of treatment strategies, we provide clinicians with more accurate diagnosis and treatment options to improve patient prognosis and quality of life.

96498_Auto_Edited-check.docx

ORIGINALITY REPORT

3%
SIMILARITY INDEX

PRIMARY SOURCES

1	www.wjgnet.com Internet	59 words — 3%

EXCLUDE QUOTES	ON	EXCLUDE SOURCES	< 15 WORDS
EXCLUDE BIBLIOGRAPHY	ON	EXCLUDE MATCHES	< 15 WORDS