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A case of primary squamous cell carcinoma of the pancreas with gastric invasion, and a review of the literature



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A Case of Primary Squamous Cell Carcinoma of the Pancreas with gastric invasion, and a review of the literature

BACKGROUND: Primary squamous cell carcinoma of the pancreas is rarely reported clinically, and the incidence rate is extremely low. The pathogenesis is not clear, and the clinical diagnosis is difficult, so it is usually determined after the pathological examination with less clinical data and poor prognosis.

CASE DESCRIPTION: This report retrospectively analyzes the relevant data of a patient admitted in August 2020 with primary squamous cell carcinoma of the pancreas. It is undertaken along with total gastrectomy mainly featured as the treatment of radical surgical resection. The operation is. CONCLUSIONS: The clinical manifestation of this disease is similar to pancreatic cancer, but it has unique pathological

CONCLUSIONS: The clinical manifestation of this disease is similar to pancreatic cancer, but it has unique pathological characteristics. The histological origin is not clear, and pathology should determine the diagnosis. It has its own characteristics of hematology and imaging and is mainly treated with surgical resection, supported by chemotherapy and radiotherapy. There is currently no definitive or effective treatment method.

KEY WORDS: Case features, Clinical manifestations, Diagnosis, Treatment, Primary squamous cell carcinoma of pancreas

Introduction

Pancreatic cancer is known as the "king of cancers," and the most common clinicopathological type is adenocarcinoma. There are few reports about pancreatic adenosquamous carcinoma, but primary squamous cell carcinoma of the pancreas clinically are rarely reported ¹. Its biological characteristics, diagnosis, and treatment have unique features and poor prognosis ². Due to its low incidence rate, a systemic theory has not been established, and clinicians have little understanding of this disease. A case that was confirmed as pancreatic squamous cell carcinoma with gastric body invasion was reported, and pancreatectomy, combined with splenectomy and total gastrectomy, was performed successfully. Related literature has been reviewed to share relevant knowledge of the disease, expand the medical vision, and deepen the understanding of the disease.

Case of upper left abdomen, without rebound tenderness. The patient had type 2 Report.

The patient, male, 64, suffered from intermittent sharp pain in the upper abdomen for two months without any obvious cause. The pain transferred to the lower back and was aggravated after taking food, accompanied by weakness and abdominal distension. Abdominal examination: Tenderness diabetes for five years and long-term history of smoking and drinking. However, he did not have a family history of relevant diseases. Heat shock protein 90 112.022 ng/mL, higher than normal values. Carbohydrate antigen 199 401.882 U/mL, notably

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higher than normal values. Abdominal CT after admission showed a mass-type soft tissue density shadow at the tail of the pancreas, with the gastric wall thickened. According to the imaging examination, the primary site of the tumor could not be determined. In view of the presence of gastric lesions, a gastroscopy was performed to extract pathology and confirm the nature of the tumor. The gastroscope showed gastric fundus plateau with mucosal protrusion and chronic hyperemia. The bloodstains were attached to the top, and fresh blood oozed out (Fig. 1). Extracted pathology showed squamous carcinoma. According to the above results, it was less likely to be the primary squamous cell carcinoma of the stomach or pancreas. An exclusive examination was carried out to clear the primary lesion.

The head, neck, lung + abdomen enhanced CT (Figs. 2-4) showed mass-type soft tissue density shadow at the tail of the pancreas with a long diameter of 5.3 cm. It presented the mild enhancement after enhancement. The quasi-circular unreinforced zone was observed inside, and the involved gastric wall was thickened. No abnormality was observed in the splenic artery, static blood vessels, or other parts.

Based on the above examination results, there were no pathological changes or distant metastasis in other organs except for the lesions of the pancreatic tail and gastric body. After considering the digestive tract obstruction and the possibility of radical excision for the focus, surgical resection treatment was performed, and it was smooth. The gastric body that had invaded the pan-



Fig. 1: Gastric body invaded by the tumor of the pancreas tail, and Fig. 3: Abdominal enhanced CT (gastric body invaded by tumor). gastric mucosal lesions observed under gastroscope.





Fig. 2: Abdominal enhanced CT (tumor located in the tail of the pancreas).



Fig. 4: Abdominal enhanced CT (gastric body, splenic artery, vein and spleen, invaded by tumor).



Fig. 5: Postoperative pathology: Poorly differentiated squamous cell carcinoma of the pancreas, locally accompanied by the adenoid differentiation (HE, $\times 100$).

creatic tail lesions was observed during the operation, accompanied by the splenic arteriovenous invasion. Consequently, a pancreatectomy + tumor resection + splenectomy + total gastrectomy was performed.

Postoperative pathology showed poorly differentiated squamous cell carcinoma of the pancreas. This was accompanied locally by the adenoid differentiation, which invaded the full gastric wall and was partly involved in the spleen. No cancer metastasis was found in the regional lymph nodes. Immunohistochemical results: CK (+), Vimentin (-), Ki-67 (60%+), CK7 (-), CK20 (-), CEA (-), P53 (80%+), P40 (+), CDX-2 (-), CD56 (-), CA19-9 (Focus+), CK19 (+), AACT (+), CK5/6 (+) (Figs. 5-6).

The postoperative diagnosis showed the squamous cell carcinoma of the pancreas, accompanied by gastric invasion. The patient recovered well after the operation and took food. However, the pancreatic fistula reoccurred a short time after the operation, and it was considered necessary to perform chemotherapy and local radiotherapy treatment.

Case features: Primary squamous cell carcinoma of the pancreas is rarely reported clinically, and it was confirmed in the advanced period. Few patients are treated with the radical operation. In this case, the lesions invaded the gastric wall, splenic artery, and vein, so the tail of pancreas + total gastrectomy + splenectomy was performed in the radical resection. The operation's scale was large, the resection of tissue was substantial, and the operation's risk was high.

Discussion

The incidence rate of primary squamous cell carcinoma of the pancreas is extremely low, and it accounts for about 0.5%-2% of non-endocrine tumors of the pan-



Fig. 6: Postoperative immunohistochemical examination: CK5/6 (+) (×100).

creas ³. Relevant articles have reported few cases of primary squamous cell carcinoma of the pancreas since 1996.

The non-endocrine tumor of the pancreas include the ducts, acini, and mixed sources, and the above tissue does not contain the squamous cell components. Consequently, few squamous cancers were found clinically, and more than 90% of them were adenocarcinoma ⁴. Foreign literature has described primary squamous cell carcinoma of the pancreas as a type of cell carcinoma affiliated to the origin of ductal cells ⁵.

There are three theories about canceration: (1) Metaplasia of glandular epithelium. Squamous metaplasia occurs on the pancreatic duct epithelium stimulated by chronic inflammation, similar to other cancers of the digestive and respiratory tract. (2) Common source. Differentiation of pluripotent pancreatic ductal cells into adenocarcinoma or squamous cell carcinoma. Immunohistochemical examination showed that both cells could express CA199 and St 439 keratin in different degrees, and it indicates that the two types of cells have a common source. (3) Squamous transformation of preexisting adenocarcinoma is common in adenocarcinoma and squamous cell carcinoma of the pancreas ⁶⁻⁷. Combined with the features of this case, the patient has a definite drinking history for a long time, and it may lead to the squamous carcinoma of the duct stimulated by chronic inflammation of the pancreas.

The clinical manifestations of the disease are not specific and are similar to normal pancreatic cancer. It has a delitescence onset, and most of the cases are confirmed in the advanced period. Upper abdomen and back pain are the main manifestations, and the occurrence rate of focus on the pancreas head, body, and tail are equivalent ⁸. The patient suffered from intermittent epigastric pain, accompanied by eating difficulties, and the lesion invaded the gastric body. The lesion was located in the tail of the pancreas, and the splenic venous reflux was blocked, so the patient also suffered from hyper-splenism.

Examination and diagnosis: CA19-19 and CEA increased abnormally, according to the laboratory examination, but it lacked specificity. It was similar to the expression of normal pancreatic cancer, which may be related to the homology of the two malignant cell sources. In terms of the imaging examination, CT scanning should be carried out first, as this can exclude the other lesions. Then, conduct an enhancement to evaluate the invasion scope of the tumor and judge the feasibility of an operation as treatment. Relevant literature reported the squamous cell carcinoma of the pancreas, and the tumor reinforcement could be observed on the enhanced CT. This is different from the lack of blood supply of the normal pancreatic adenocarcinoma on enhanced CT and could be used for differential diagnosis. However, the pancreatic neuroendocrine tumors are also rich in blood supply, and the enhanced CT also showed the tumor reinforcement. It is hard to distinguish between them in terms of imaging, so attention should be paid to identification 9. PET-CT is more sensitive than CT to exclude other lesions and determine the degree of metastasis, but there is no specificity in determining the histological types. Due to its high cost, the patient may find this difficult to accept.

The primary squamous cell carcinoma of the pancreas is mainly diagnosed by fine needle aspiration or postoperative pathology under the guidance of endoscopic ultrasonography. It is the gold standard for pathological diagnosis. The main pathological features under the microscope showed that the atypical squamous cells were distributed in irregular nests, and the keratin pearl and intercellular bridge could also be observed.

Immunohistochemical examination: CK5/6 (+) and P63 (+). P63 (+) showed that the squamous differentiation could be confirmed, and CK5/6 (+) showed that the disease could be confirmed 10 . In clinical diagnosis, squamous lesions in other parts must be excluded. Some cases reported that the metastatic papillary and follicular pancreatic cancer came from thyroid cancer. However, there were few cases with pancreas metastasis for the primary squamous cell carcinoma in other organs clinically. The patient's pathological report showed there were squamous carcinoma cells with low differentiation and an immune combination of CK5/6 (+). A specific examination was carried out before the operation to exclude lesions in other parts. It can definitively diagnose primary squamous cell carcinoma of the pancreas.

For treatment, the primary squamous cell carcinoma of the pancreas is highly malignant with a poor prognosis. The study of Brown et al ¹¹ showed that the median survival time of patients who underwent radical excision is seven months. Otherwise, the median survival time is only three months.

There is no standard treatment for this disease. If radi-

cal excision can be performed, it is better for the patient to receive the relevant treatment and undergo chemotherapy or radiotherapy. Some reports have recorded that the survival period of the patient could be up to 26 months when they undergo radical treatment and chemotherapy after the operation. The patient's survival time may be extended with surgical resection as the main treatment and in combination with radiotherapy and chemotherapy. If the patient is unable to have an operation, conventional treatment of pancreatic cancer and squamous cell carcinoma are mainly adopted clinically. Radiotherapy and chemotherapy are suggested. Although squamous cell carcinomas in other organs of the body are sensitive to chemoradiotherapy and the prognosis is good, the effect of radiotherapy and chemotherapy alone is not good. The prognosis is poor and worse than that of pancreatic adenocarcinoma¹². Relevant literature reported that the patient treated with chemotherapy had a notably reduced median survival time compared to the patient treated with combined radiotherapy and chemotherapy. Combined with relevant features of this case, the radical excision has been carried out, and the large-scale operation puts a high demand on the surgeon's surgical technique. The recommendation is to perform chemotherapy and radiation therapy one month after recovery from the operation. The therapeutic effect needs close follow-up and observation. The follow-up treatment is considered a prophylactic treatment to summarize whether the postoperative anti-tumor comprehensive therapy is beneficial to the disease control.

Conclusions

In summary, primary squamous cell carcinoma of the pancreas is rarely reported, and the exclusive diagnosis and pathological diagnosis are needed for confirmation. This requires comprehensive and meticulous clinical thinking from clinicians. Due to the high degree of malignancy, there is no effective treatment, and the survival rate is extremely low.

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Riassunto

Il carcinoma primitivo a cellule squamose del pancreas è di rara osservazione ed è raramente descritto. La patogenesi non è chiara e la diagnosi clinica è difficile, e di solito viene chiarita dopo l'esame isto-patologico con meno dati clinici preoperatori e con prognosi infausta. Nel caso di carcinoma primitivo del pancreas del paziente presentato, ricoverato nell'agosto 2020, si analizzano retrospettivamente i dati rilevanti, ed il trattamento con resezione chirurgica radicale insieme alla gastrectomia totale.

CONCLUSIONI: La manifestazione clinica di questa malattia è simile al cancro del pancreas in generale, ma ha caratteristiche anatomo-patologiche uniche. L'origine istologica non è chiara e la diagnosi precisa deriva dallo studio anatomo-patologico. Presenta caratteristiche ematologiche e di imaging; il trattamento è principalmente quello della resezione chirurgica, seguita da chemioterapia e radioterapia. Attualmente non esiste un metodo di trattamento definitivo o efficace.

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