

CASE REPORT

A Successful Radical Resection of Primary Duodenal Adenocarcinoma: A Case Report in Makassar, Indonesia

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ABSTRACT

A 46-year-old women presented with primary duodenal adenocarcinoma, which is rarely found. Interestingly, this patient presented without any spesific symptoms, yet no jaundice. Whipple procedure was conducted. Following the surgery, Capecitabine-Oxaliplatin adjuvant chemotherapy was administered. At 24 months post-surgery, no evidence of recurrence and the patient's condition was still satisfactory good.

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INTRODUCTION

Primary duodenal adenocarcinoma is very rare, accounts for only 0.3-1% of all gastrointestinal carcinomas. About 1-15% tumors are located in the first, 50-75% in the second, 14-33% in the third, and 5-17% in the fourth part of the duodenum (1). Malignancy in the duodenum is generally diagnosed late because the symptoms are asymptomatic in the early stage and mimicking symptoms of duodenal ulcers. More than half of the patients are asymptomatic. The symptoms are not specific, such as intermittent abdominal pain, nausea, vomiting, and weight loss. The gold standard for diagnosis is endoscopy, even though it is not unusual to obtain false negative cases in the third and fourth duodenal portions (2). In this case report, we will presented a primary duodenal adenocarcinoma, sucessfully managed by surgical resection.

CASE REPORT

A 46-year-old women presented to the emergency department with upper right side abdominal pain for 3 months, worsening in the last 2 weeks. She denied any history of jaundice. Another symptoms were weight

loss, loss of appetite, and nausea. From the physical examination, the sclera was not icteric and no palpable mass at the abdomen. Digital rectal examination was normal. The abnormal laboratory values were anemia (Hb 7 g/dL) and coagulopathy (INR 2.33). Abdominal CT scan failed to conclude exact abnormality, and further upper endoscopy examination revealed a mass located between duodenum part 1 and part 2, easily bleed, with histopathology results of adenocarcinoma (Figure 1).

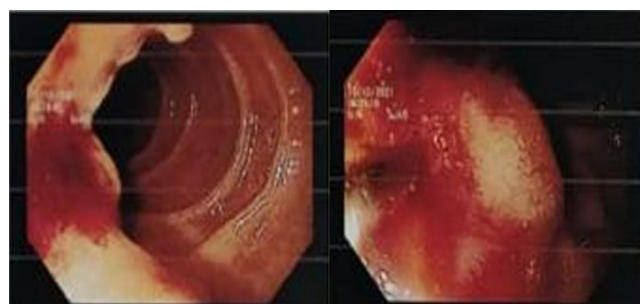


Figure 1: Upper endoscopy examination revealed mass at the first and second portion of duodenum.

Whipple procedure (Figure 2) was carried out with R0 resection (confirmed by histopatology result) (Figure 3). Reconstructions were done at three sites: pancreas and jejunum; common bile duct and jejunum; stomach and jejunum. The patient discharged after 10 days of hospital stay and proceed to received adjuvant chemotherapy. After 2 years follow up, the condition was still satisfactory good and no evidence of recurrency.

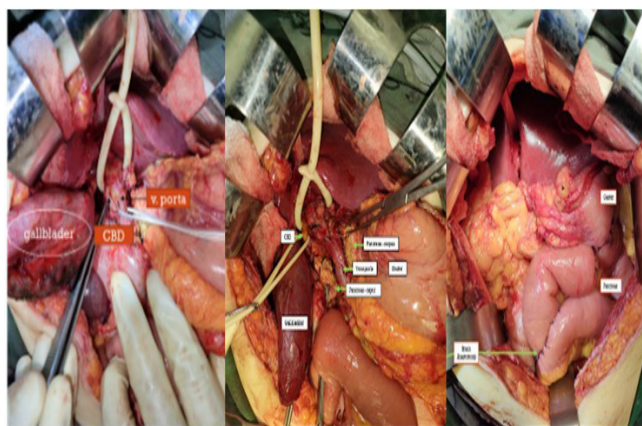


Figure 2: Whipple procedure and its reconstruction.

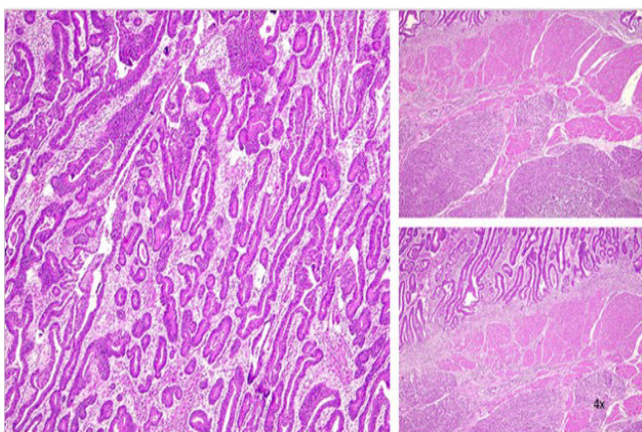


Figure 3: Pathology examination showed adenocarcinoma of duodenum.

DISCUSSION

Adenocarcinoma of duodenum is usually diagnosed late, with low resectability index, and has poor prognosis. Predisposing factors for carcinogenesis of duodenal adenocarcinoma are not fully understood. However, it is believed to be related to mutations in KRAS, SMAD4, or p53. In this case, the patient came with unspecific symptoms, only upper right abdominal pain and nausea. Almost all literatures stated that clinical manifestations of duodenal cancer is not specific, only abdominal pain and nausea (1).

As further radiological examination could not give a clear diagnosis, upper endoscopy examination revealed a presence of mass in the junction of first and second portions of the duodenum. Esophagogastroduodenoscopy combined with biopsy remains the first-line diagnostic modalities for the diagnosis of duodenal cancer. It allows direct visualization of the mucosal surface of the duodenum and biopsy of the mass if needed. Barium meal can be considered if diagnosis is difficult and to rule out other causes (3).

Radical surgical resection is the standard for duodenal cancer management. Tumors arising in

the first and second parts of duodenum require pancreaticoduodenectomy, tumors in the third part can be considered for pancreaticoduodenectomy or segmental resection, whereas tumors in the fourth portion may be more amenable to segmental duodenal resection. Nowadays, endoscopic resection can be considered for tumors sized less than 1 cm and not extending from the submucosal layer. Many factors must be considered before choosing a course of action in cases of duodenal cancer, such as tumor location, tumor stage, availability of expert facilities, and patient's condition. In patients with low performance status or metastatic disease, palliative procedures such as gastrojejunal anastomosis can be performed (4).

Following surgery, there are currently few data available to inform the choice of adjuvant chemotherapy as an advanced form of surgical resection. Given its rarity, most therapeutic studies have traditionally combined duodenal Adenocarcinoma with small bowel adenocarcinomas. Chemotherapy or chemoradiation has shown to improve clinical efficacy in primary duodenal cancer, such as 5-FU, FOLFOX, and CAPEOX (5).

From our searches, there were 83 case reports about primary duodenal adenocarcinoma reported worldwide in the last 20 years. The majority of subjects reported unspecific symptoms such as abdominal pain, nausea, and weight loss. In three cases, the diagnosis was even obtained through endoscopy screening with asymptomatic symptoms. The second part of the duodenum was mostly involved and Whipple procedures were most commonly done for management.

CONCLUSION

In primary duodenal adenocarcinoma, complete surgical resection is the main management. Adjuvant chemotherapy can be performed to prolong the survival.

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REFERENCES

1. Kaklamanos IG, Bathe OF, Franceschi D, Camarda C, Levi J, Livingstone AS. Extent of resection in the management of duodenal adenocarcinoma. *Am J Surg.* 2000;179(1):37-41. doi: 10.1016/s0002-9610(99)00269-x
2. Poultsides GA, Huang LC, Cameron JL, Tuli R, Lan L, Hruban RH, et al. Duodenal adenocarcinoma: clinicopathologic analysis and implications for

- treatment. *Ann Surg Oncol*. 2012;19(6):1928-35. doi: 10.1245/s10434-011-2168-3
3. Cloyd JM, George E, Visser BC. Duodenal adenocarcinoma: Advances in diagnosis and surgical management. *World J Gastrointest Surg*. 2016;8(3):212-21. doi: 10.4240/wjgs.v8.i3.212
 4. Kim GH, Kim JI, Jeon SW, Moon JS, Chung IK, Jee SR, et al. Endoscopic resection for duodenal carcinoid tumors: a multicenter, retrospective study. *J Gastroenterol Hepatol*. 2014;29(2):318-24. doi: 10.1111/jgh.12390
 5. Raghav K, Overman MJ. Small bowel adenocarcinomas--existing evidence and evolving paradigms. *Nat Rev Clin Oncol*. 2013;10(9):534-44. doi: 10.1038/nrclinonc.2013.132