International Journal of BioMedicine 4(2) (2014) 107-108

INTERNATIONAL JOURNAL OF BIOMEDICINE

CASE REPORT

Pancreatic Adenocarcinoma in a Pregnant Patient with Situs Inversus: a Case Report

Bekkhan Khatsiev, MD, PhD; Enver Baichorov, MD, ScD; Alexander Kuzminov, MD*

The Stavropol State Medical University, Stavropol, Russian Federation

Abstract

This is a report on the case of pancreatic adenocarcinoma in 29-year-old pregnant woman with situs inversus. The main consideration was whether pregnancy should be preserved. Patient underwent pancreatoduodenectomy following pregnancy, abortion, and mastectomy for breast adenoma. Whipple pancreatoduodenectomy with open pancreaticogastrostomy was performed. Microscopy revealed clear cell adenocarcinoma with low-grade differentiation, which was confirmed by an immunohistochemical study. Patient feels good, without any signs of pain or decrease in life quality, four years after the operation. We think that such complex cases require the application of every available diagnostic method and that surgery should be performed by the most experienced surgeon.

Keywords: *pancreatic cancer, pregnancy, pancreatoduodenectomy.*

Introduction

Adenocarcinoma in women of reproductive age is a rare condition. The median age for pancreatic ductal carcinoma is 71 while less than 3% of patients diagnosed with this disease are under age of 45 [1]. We found only ten reported cases of pancreatic carcinoma in pregnant patients [2-5] and ten cases of pancreatoduodenectomy in patients with situs inversus totalis [6-8]. The present case is the first report of adenocarcinoma in a pregnant patient with situs inversus totalis.

Case Presentation

The 29-year-old woman was admitted to our clinic with upper abdominal pain that had been present for 1 year before admission and had been worsening over that time. After the first presentation of pain, the patient underwent an ultrasound study, which showed a pancreatic head mass of 18x20 mm. On admission, computed tomography revealed situs inversus totalis and confirmed presence of the pancreatic head mass of nonhomogeneous structure with solid inclusions (density of 41 IU) and dimensions of 40x38x47 mm. The body of the pancreas was 11 mm, and the tail, 13 mm. The main pancreatic duct was not dilated. Enlarged retroperitoneal lymphatic nodes were not detected. Ultrasound confirmed these findings. Ultrasound revealed that the uterus was sized 58x65x48 mm with a fertilized ovum in its cavity. The fertilized ovum had a diameter of 8 mm after three weeks of gestation accordingly. In addition, patient had palpable mass in the left breast inwards from the nipple, sized 17x12 mm with homogenous structure at an ultrasound examination. Ultrasound-controlled fine needle aspiration biopsies (FNAB) from the breast and pancreatic head masses were performed. FNAB of breast mass revealed intraductal proliferative adenoma with high-grade dysplasia. FNAB of pancreatic head mass demonstrated many cellular elements, represented by papillary and glandulous complexes and scattered cells with no cellular atypia. Granulomatous process (like sarcoidosis) could be suggested.

We strongly suspected malignant disease despite FNAB findings, considering abdominal pain and significant size increase of the pancreatic head mass during last year. Patient was admitted for elective surgery one month after the first admission following abortion and sector resection of the left breast. She underwent preoperative aortic arteriography that showed small-caliber vasculature, sized 5x6 cm, in the pancreatic head. No other arterial abnormalities were found.

Intraoperative findings confirmed a mobile dense pancreatic head mass 5x6cm. Whipple gastropancreato-duodenectomy with open pancreaticogastrostomy was performed. Microscopy revealed clear cell adenocarcinoma

***Corresponding author:** Alexander Kuzminov, MD. Clinic endoscopic and minimally invasive surgery of the Stavropol State Medical University. E-mail: dr.kuzminov@gmail.com*

with low-grade differentiation. Those findings were confirmed by an immunohistochemical study.

The postoperative course went without any complications. Patient was discharged eight days after the operation. Patient feels good, without any signs of pain or decrease in life quality, four years after the operation.

Discussion

The very controversial issue in this case was whether we should preserve pregnancy. We considered many factors. One of them was that the fetus had had to be exposed to radiological examinations during the critical period of the first trimester of pregnancy; that could be associated with a high risk of teratogenic effects of ionizing radiation along with a risk of microcephaly, mental retardation, growth retardation, and childhood leukemia [9,10]. We were sure that more than one or two radiological examinations would be needed, considering that the case is rare and complex. Another reason that affected our decision was the short life expectancy and low survival rate for patients with malignant pancreatic neoplasms after pancreatoduodenectomy: survival rate is 63% at 1 year and 17% at 5 years, with a median survival of 17 months [11]. Patient was informed of all risks and came to the decision to abort the pregnancy.

We think that such complex cases require extensive use of every diagnostic method available. We do not use aortic arteriography routinely before pancreatoduodenectomy because it is not covered by medical insurance. Nevertheless, if one suspects any difficulties in the operation, this procedure should definitely be performed before the operation because vascular imaging of the manipulation zone alerts the surgeon of any abnormalities that might be encountered. This procedure can decrease operation time and prevent mistakes. If aortic arteriography is not available, at least a Duplex scan should be used. Another feature of this case is use of open pancreaticogastrostomy with duct drainage and patching of the pancreatic stump surface by gastric submucosa. We strongly support the point of view, stated by Yeo and other researchers [11], that pancreaticogastrostomy has no advantages over pancreaticoenterostomy, regarding anastomosis leakage. However, we prefer performing pancreaticogastrostomy because it significantly decreases operation time due to a shorter reconstructive stage.

Competing interests

The authors declare that they have no competing interests.

References

1. He J, Edil BH, Cameron JL, Schulick RD, Hruban RH, Herman JM, et al. Young patients undergoing resection of pancreatic cancer fare better than their older counterparts. J Gastrointest Surg 2013;17(2):339-44.
2. Blackbourne LH, Jones RS, Catalano CJ, Iezzoni JC, Bourgeois FJ. Pancreatic adenocarcinoma in the pregnant patient: case report and review of the literature. Cancer 1997; 79(9):1776-9.
3. Kakoza RM, Vollmer CM, Jr., Stuart KE, Takoudes T, Hanto DW. Pancreatic adenocarcinoma in the pregnant patient: a case report and literature review. J Gastrointest Surg 2009; 13(3):535-41.
4. Marci R, Pansini G, Zavatta C, Mossuto E, Giugliano E, Marzola M, et al. Pancreatic cancer with liver metastases in a pregnant patient: case report and review of the literature. Clin Exp Obstet Gynecol 2012; 39(1):127-30.
5. Papoutsis D, Sindos M, Papantoniou N, Antsaklis A. Management options and prognosis of pancreatic adenocarcinoma at 16 weeks' gestation: a case report. J Reprod Med 2012; 57(3-4):167-70.
6. Maruyama Y, Horiuchi H, Okabe Y, Kawahara R, Uchida S, Sakai T, et al. Perioperative challenges associated with a pancreaticoduodenectomy and distal pancreatectomy for pancreatic cancer in patients with situs inversus totalis: report of two cases. Surg Today 2010; 40(1):79-82.
7. Quintini C, Buniva P, Farinetti A, Monni S, Tazzioli G, Saviano L, et al. Adenocarcinoma of pancreas with situs viscerum inversus totalis. Minerva Chir 2003; 58(2):243-6.
8. Sceusi EL, Wray CJ. Pancreatic adenocarcinoma in a patient with situs inversus: a case report of this rare coincidence. World J Surg Oncol 2009; 7:98.
9. Lazarus E, Debenedectis C, North D, Spencer PK, Mayo-Smith WW. Utilization of imaging in pregnant patients: 10-year review of 5270 examinations in 3285 patients--1997-2006. Radiology 2009; 251(2):517-24.
10. Mayo JR. Radiation dose issues in longitudinal studies involving computed tomography. Proc Am Thorac Soc 2008; 5(9):934-9.
11. Sohn TA, Yeo CJ, Cameron JL, Koniaris L, Kaushal S, Abrams RA, et al. Resected adenocarcinoma of the pancreas - 616 patients: results, outcomes, and prognostic indicators. J Gastrointest Surg 2000; 4(6):567-79.