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Ectopic pregnancy in simultaneous pancreas-kidney transplantation: A case report

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ABSTRACT

INTRODUCTION: We present a case report of ectopic pregnancy (EP) after simultaneous pancreas-kidney transplantation (SKPTx).**PRESENTATION OF CASE:** A 33-year-old female status post SKPTx suddenly got abdominal pain in the lower level. She had high human chorionic Gonadotropin test. Ultrasonography revealed that there was no fetus in the uterus but a dilated right fallopian tube, which strongly suggested ectopic pregnancy. An emergency operation was performed and a dilated right side uterine tube was found with adhesions to her transplant. Salpingectomy was performed and no visible injury to the pancreas was found by the procedure. Pathological evaluation showed ectopic pregnant fetus, and no pancreas dysfunction was observed after the operation.**DISCUSSION:** This is the first case and operation report of EP after SKPTx. We should consider various causes of acute abdomen as well as several pathological condition in the transplanted pancreas such as pancreatitis, abscess, and thrombosis in vessels in the organ. Moreover, transplanted pancreas in abdomen is easily misrecognized as adipose tissue and there is high risk that the organ to get injured surgically.**CONCLUSION:** EP should be included in the different diagnosis in SKPTx female patients who get acute abdominal pain. It is highly desirable that transplant surgeon is included in the operation team for EP of these patients.© 2016 The Authors. Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Simultaneous kidney- and pancreas transplantation (SKPTx) is a treatment for patients with diabetes mellitus type 1 with chronic kidney failure due to diabetic nephropathy [1]. The fertility after the transplantation depends on several factors such as general status, the function of transplanted organs, additional medical conditions which might decrease the possibility of fertility, and medications including immunosuppressive agents [2–6]. Little data are available on complication of pregnancy after SKPTx [4]. We present our case of the operation due to ectopic pregnancy in a patient who previously underwent SKPTx. Written informed consent was obtained from the patient after the operation.

Abbreviations: EP, ectopic pregnancy; SKPTx, simultaneous kidney- and pancreas transplantation; hCG, human chorionic Gonadotropin.

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2. Case report

A 33 year-old female was diagnosed of diabetes mellitus type 1 at the age of 3 and became end stage renal failure due to diabetic nephropathy at the age of 26. She underwent SKPTx in 2009 at the age of 27. She had good graft function with both kidney and pancreas and no insulin treatment was needed after the SKPTx. She suddenly got abdominal pain in the lower level and admitted to the emergency department of the local hospital. The initial blood test revealed that she had high human chorionic Gonadotropin (hCG) in serum, 7300, which indicated a pregnancy. Ultrasound evaluation revealed that there was no fetus in the uterus and evaluation showed dilated fallopian tube on the right side, which strongly suggested ectopic pregnancy (EP). The patient was transferred to our gynecology department of the university hospital from the local hospital and an emergency operation was performed by a gynecologist with assistance of a transplant surgeon.

The procedure of the operation was as follows: Under general anesthesia, midline incision of the lower abdomen was done. Linea alba and peritoneum was cut. A small amount of blood was found in the abdominal cavity. Underneath the small bowel the dilated right

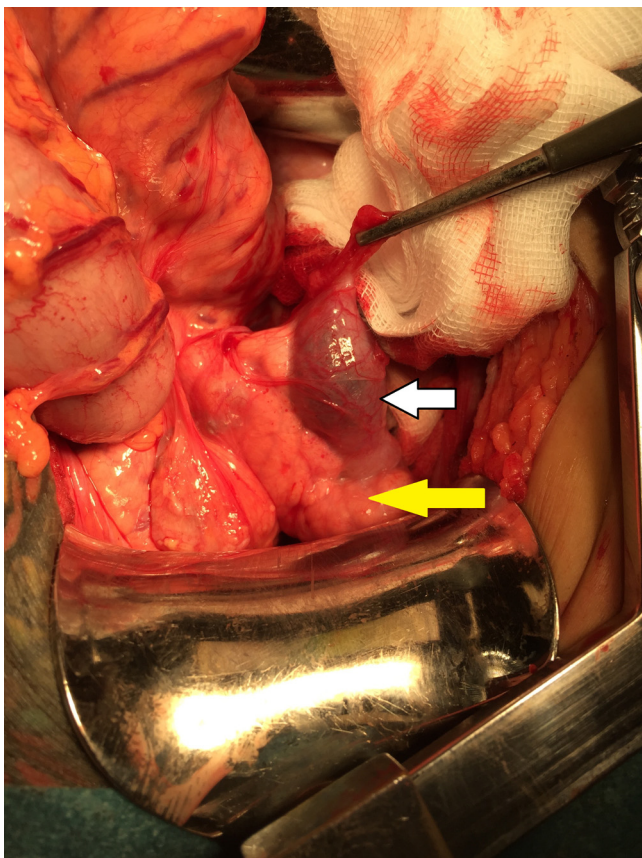


Fig. 1. Dilated right uterine tube (white arrow) which was adhered to the transplanted pancreas (yellow bigger arrow).



Fig. 2. Removed right uterine tube, 10cm, with extrauterine pregnancy, 3 × 1.5 × 1.5 cm.

side uterine tube was found (Fig. 1). The uterine tube was adhered to the middle of the transplanted pancreas body. The tube was isolated carefully by using a surgical scissors and separated from the pancreas. After the isolation salpingectomy was performed (Fig. 2). No visible injury to the pancreas was found by this meticulous procedure. The abdominal incision was closed without placing any drainage tube.

Postoperative blood test showed no increasing of blood glucose, normal amylase and no change of C-peptide in the normal range. Patients was discharged 2 days after the operation and the

follow-up hCG test became negative. Pathological evaluation of the removed tube confirmed an ectopic pregnancy.

3. Discussion

This is the first case and operation report of EP after SKPTx. Proper differential diagnosis of abdominal pain and appropriate treatment/intervention in patients who has underwent SKPTx is significant in order to preserve the organ function and reduce the morbidity of the patients. We should consider various causes of acute abdomen as well as several pathological condition in the transplanted pancreas such as pancreatitis, abscess, and thrombosis in vessels in the organ. As for the gynecological problem, there was one case report of ruptured tubo-ovarian abscess one year after SKPTx and the patient underwent exploratory laparotomy [7]. The other report indicated that the organ transplanted pregnant patients often displayed toxemia or preeclampsia during pregnancy which required cesarean section [3]. Risk factors of EP in general population is reported as follows: previous EP, previous Chlamydia trachomatis, previous infertility, previous adnexal surgery, previous appendectomy, and previous or current use of intrauterine devices [8]. There is no report that the organ transplantation and immunosuppression medication increased the risk of EP.

In our gynecological department the standard procedure for EP is laparoscopic surgery. In circulatory unstable patients, or in cases where the risks for complications due to adhesions from prior surgery are deemed to high, we perform open surgery. In this case, open surgery was chosen in order to minimize the risk of damage to the transplanted pancreas. The operation was performed by a gynecologist and a transplant surgeon. There existed a risk that the transplanted pancreas was misunderstood as just adipose tissue and got injured with blunt dissection if the transplant surgeon had not participated in the operation. The transplanted pancreas is usually placed in the lower part of the abdominal cavity and after several years after the transplantation, it becomes difficult to identify the graft and it can easily be misunderstood as adipose tissue. We have experienced one case when the general surgeon in a local hospital performed emergency operation for a SPKTx patient due to acute abdomen. The pancreas was significantly damaged during the procedure with massive bleeding because the involved surgeons could not identify the transplanted pancreas graft, and the patient died due to the complication of the operation. It is important to cooperate with the gynecologist to evaluate the anatomical status of the transplanted organ and the location of the extrauterine pregnancy. After the appropriate evaluation, surgical procedure for ectopic pregnancy should be performed. In this case, we successfully removed the dilated uterine tube without any surgical damage to the transplanted pancreas due to the favorable cooperation among gynecologist and transplant surgeon.

In summary, we here report a case of EP after SKPTx. EP should be included in the different diagnosis in SKPTx female patients who get acute abdominal pain. It is highly desirable that transplant surgeon is included in the operation team for EP of these patients because the transplanted pancreas is easily misunderstood as adipose tissue.

Disclosure statement

Two authors declare the absence of any conflict of interest to disclose.

Two authors declare no financial support and no relationship with the companies that may have a financial interest in the information contained in this report.

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