



Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Superior mesenteric vein thrombosis – unusual management of unusual complication of Whipple procedure



Martin Hut'an^{a,*}, Christian Bartko^a, Roman Slyško^b, Jaroslav Sekáč^a,
Augustín Prochotský^a, Ivan Majeský^a, Ján Škultéty^a

^a IInd Surgical Department of Medical Faculty, Comenius University, Bratislava, Slovakia

^b Department of Vascular Surgery, University Hospital Bratislava, Bratislava, Slovakia

ARTICLE INFO

Article history:

Received 19 August 2014

Received in revised form 1 September 2014

Accepted 3 September 2014

Available online 10 September 2014

Keywords:

Whipple procedure

Superior mesenteric vein thrombosis

Mesenteroovarian anastomosis

Open abdomen

Abdominal sepsis

ABSTRACT

INTRODUCTION: Pancreatoduodenectomy is an extensive procedure carrying risk of a number of post-operative complications. Of these the most common are surgical site infections (SSI), bleeding, delayed gastric emptying, and anastomotic leakage. However, the most serious complications are ones, that are rare, clinically hardly diagnosed, and if untreated, leading to the death of a patient. Among the latter complications is thrombosis of superior mesenteric vein. Its clinical signs are unspecific and diagnostics complicated. Treatment requires aggressive approach. If this is absent, intestinal necrosis with septic state, Multiple Organ Dysfunction Syndrome (MODS) and Multiple Organ Failure (MOF) lead to a death of a patient.

PRESENTATION OF CASE: Authors present a case of a patient after pancreatoduodenectomy, complicated by the thrombosis of superior mesenteric vein. Patient was managed by resection of the necrotic bowel, venous decompression by venous bypass from superior mesenteric vein to the right ovarian vein, and open abdomen with negative pressure wound therapy (NPWT). Patient suffered severe abdominal sepsis with need for intensive organ support. Abdomen was definitely closed on fourth NPWT redress. Patient healed without any further complications, is well and was released to the ambulatory setting.

DISCUSSION: Superior mesenteric vein (VMS) thrombosis is a rare complication. Its diagnosis requires high level of vigilance and once diagnosed, aggressive therapy is essential. Two goals of surgical treatment exist: resection of the necrotic bowel and facilitation of the blood outflow.

CONCLUSION: Mesenteroovarian anastomosis is one of the options in treatment of thrombosis of VMS if thrombectomy is not feasible.

© 2014 The Authors. Published by Elsevier Ltd. on behalf of Surgical Associates Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).

1. Introduction

Pancreatoduodenectomy is primarily indicated in two cases: tumor of periampullary area (carcinoma of the head of the pancreas, ampulla of Vater, distal common bile duct, and duodenum) or chronic pancreatitis with pathological changes in the head of the pancreas or the uncinate process of the pancreas. Taking into account the extent of the procedure (mobilization of the

duodenum, dissection and manipulation in the area of superior mesenteric vessels and the portal vein, dissection of hepatoduodenal ligamentum with transection of the common bile duct, resection of the distal stomach, resection of the head of the pancreas, and construction of anastomoses on the common bile duct and the pancreatic duct) and the state of the patient with underlying diseases (malnutrition, cardiovascular and metabolic diseases), the risk of serious complications is elevated.

Most common complications of pancreatoduodenectomy can be divided in four groups: SSI, delayed gastric emptying, bleeding, and anastomotic leakage.¹ Nevertheless, other complications, much less frequent, exist. Their identification in early postoperative course is complicated and if left untreated, leading to the death of a patient.

Among such complications is superior mesenteric vein (SMV) thrombosis with subsequent ischemia of the tributary area. Clinical symptoms of SMV thrombosis are untypical, obscure and characterized by slow progress, all this covered by early postoperative period.² Because of these obscure symptoms, it was not

Abbreviations: CRP, C-reactive protein; CT, Computer Tomography; ERCP, Endoscopic Retrograde Cholangiopancreatography; IPP, Proton Pump Inhibitor; IU, International Units; LMWH, Low molecular weight heparin; MODS, Multiple Organ Dysfunction Syndrome; MOF, Multiple Organ Failure; NPWT, Negative Pressure Wound Therapy; PCT, Procalcitonine; SSI, Surgical Site Infection; SMV, Superior mesenteric vein; UFH, Unfractionated heparin; WBC, White blood cell count.

* Corresponding author at: IInd Surgical Department of Medical Faculty, Comenius University, University Hospital Bratislava, Hospital of St. Cyril and Methodius, Antolská 11, 85107 Bratislava, Slovakia. Tel.: +421 2 68673328.

E-mail address: matohuto@yahoo.com (M. Hut'an).

<http://dx.doi.org/10.1016/j.ijscr.2014.09.004>

2210-2612/© 2014 The Authors. Published by Elsevier Ltd. on behalf of Surgical Associates Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).

until 1935, that thrombosis of SMV was identified as a nosology entity.^{3,4} This complication was described in the literature not only after pancreatoduodenectomy,⁵ but also after surgery for inflammatory bowel disease,⁶ fundoplication,⁷ acute appendicitis,⁸ and splenectomy.⁹ All papers are case files describing this rare complication.

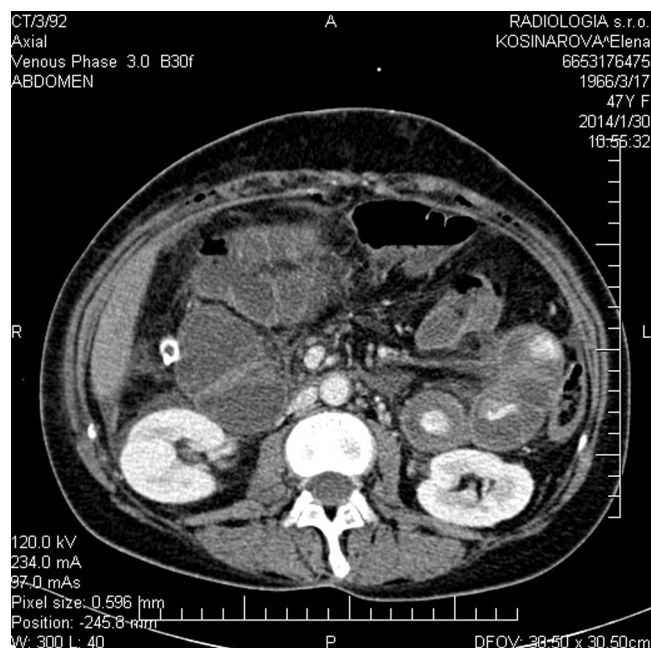
Therapy of thrombosis of SMV is divided into conservative, endovascular, and surgical treatment. Basis of the conservative treatment was stated by the classical paper by Barrit and Jordan in 1960. In this work authors present acute heparinization of the patient as a fundamental therapy of thromboembolic complications.¹⁰ Treatment of the thrombosis of SMV does not differ from the treatment of the thrombosis in any other localization. Initial treatment goal is cessation of thrombotisation and enabling of body's fibrinolytic activity for destruction of the thrombus. Administration of the therapeutic dosage of heparin provides immediate effect. Another possibility is thrombolysis, either administered systemically or locally. One of the possibilities described in the literature is transfemoral introduction and application of alteplase in superior mesenteric artery (SMA).¹¹ Another interesting possibility described in the literature is direct aspiration thrombectomy from SMV without use of thrombolysis.¹² Surgical therapy is indicated on the basis of clinical state and has two goals. First goal is facilitation of venous outflow (usually by thrombectomy) and second one is assessment of the vitality of the bowel with resection of necrotic segments. In contrast to arterial ischemia, the border between ischemic and livid bowel is less visible and identifiable, and second look laparotomy is indicated if in doubt.¹³

Prognosis of the patient depends on the clinical state, early identification of this complication, and aggressive treatment. Mortality of the patients with necrotic bowel, after extensive operation, and with developed abdominal sepsis is high; the treatment is multidisciplinary (surgeon, anesthesiologist, internal medicine specialist, radiologist, clinical microbiologist, and gastroenterologist), complicated, timely and financially demanding.

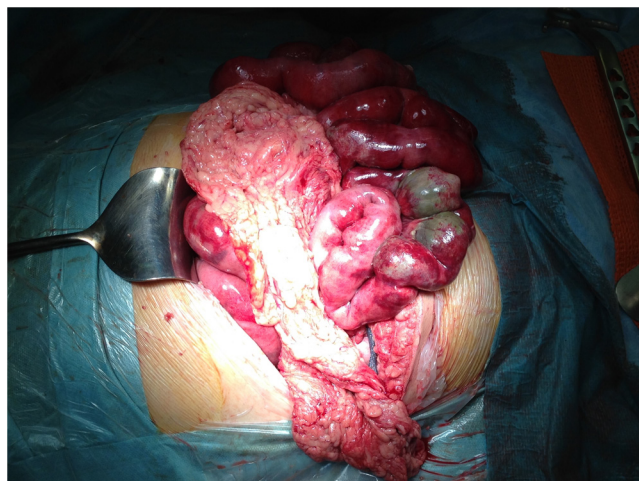
2. Case file

A 38-year-old female patient, with cystic tumor in the head of the pancreas, with compression of the common bile duct and pancreatic duct, after unsuccessful ERCP (endoluminal cholangiopancreatography), with persistent pain, was admitted to our department for elective operation. Patient's history had heroin abuse, syphilis, chronic pancreatitis; currently the patient free from drugs for the past eight years. Patient had no hematologic diseases or disorders. During the operation, we encountered difficult preparation of the head of the pancreas, which was in a fibrotic terrain. Cystic formation with pancreatocolitis was present in the head of the pancreas, without connection to Wirsung duct. Cephalic pancreatoduodenectomy was performed, with reconstruction by pancreatojejunostomy, then choledochojejunostomy and gastrojejunostomy on one intestinal loop. Preoperatively medical treatment included prophylactic antibiotics (1st generation cephalosporins), later changed to therapeutic antibiotics (carbapenems), postoperative therapy included prophylactic dosage of LMWH (Fraxiparine 0.3 ml s.c. 1 d, Glaxo Group LTD, Great Britain), PPI (proton pump inhibitor), analgesia, all-in-one nutrition.

High production in Tygon drains was present in early postoperative period (1200 ml, 800 ml, and 700 ml, respectively). No signs of elevated levels of bilirubin or amylases were found in exudate from the drains. Clinically, the abdomen was without peritoneal signs, audibly with weak but present peristaltic movements. On the third postoperative day, we performed CT with per oral and intravenous administration of contrast, without finding leakage from the hollow tube of gastrointestinal tract, without free fluid in the



Picture 1. CT on third postoperative day showing venostatic jejunum with thickened intestinal wall.



Picture 2. Perioperative finding of ischemic and necrotic bowel during surgical revision on fourth postoperative day.

abdominal cavity, without signs of thrombosis of SMV, portal vein or splenic vein. Edematous efferent loop of jejunum was the dominating finding on the CT, with intestinal wall being thickened to 20 mm (Picture 1). On the fourth postoperative day, while considering worsening clinical state, elevation of inflammatory parameters (WBC, CRP, PCT – white blood cell count, C-reactive protein, procalcitonine) and suspicion for venous ischemia of the bowel we indicated the patient for surgical revision.

During the surgery, we found severe venous congestion of the small intestine and caecum, with ischemic and necrotic areas on distal ileum (Picture 2). The cause of this congestion was palpable thrombosis of SMV passing on to portal vein. Vascular surgeon was called to the operation theater and decision was made for venous derivation of SMV by means of mesentericocaval bypass. Based on local anatomical conditions, bypass was performed between the most proximal branch of SMV and the right ovarian vein, with end-to-end anastomosis (Picture 3). Because of the necrotic areas on the bowel the resection of the distal ileum (approximately 40–50 cm)

Download English Version:

<https://daneshyari.com/en/article/4289246>

Download Persian Version:

<https://daneshyari.com/article/4289246>

[Daneshyari.com](https://daneshyari.com)