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Case Report

Exceptional and Serious Complication after Cephalic Duodenopancreatectomy: Case Report

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Abstract: Pancreatic surgery remains associated with significant mortality and morbidity. Efforts are generally focused on reducing postoperative complications, but early detection of patients at risk could be another effective strategy. Cephalic duodenopancreatectomy (DPC) is the treatment of choice for pancreatic head adenocarcinomas and Vater ampullomes. In the multicenter series of the French Association of Surgery published in 2010, DPC had a hospital mortality of 4% and a morbidity of 54%, about half of which corresponded to severe complications. In Algeria, in recent years, there has been a reduction in post-DPC mortality, especially in high-volume operating centres. We report the case of a patient operated for an adenocarcinoma of the head of the pancreas, in whom a DPC was performed with a favorable initial evolution. Three weeks after his discharge, he returned for abdominal pain accompanied by an infectious syndrome. The scan showed a tubular formation of 5 cm intra-abdominal. The surgical revision confirmed the presence of an intra-abdominal drain fragment responsible for a digestive wound in the small intestine. The purpose of this article is to draw attention to this exceptional, but possible complication in order to make surgeons aware of the need for particular vigilance when managing postoperative drains.

Keywords: Adenocarcinoma of the pancreas, cephalic duodenopancreatectomy, morbidity and mortality in pancreatic surgery, complications.

INTRODUCTION

Mortality after cephalic duodenopancreatectomy (DPC) has decreased in recent decades, but its morbidity remains high, around 50–60% [1-4]. The main immediate complications of PCD are pancreatic fistula, gastroparesis, hemorrhage and surgical site or remote infections [1].

In a German study on post-DPC morbidity and mortality, mortality was 10.7% in 2009, 9.7% in 2010, 10.2% in 2011, 10.1% in 2012 and 9.7% in 2013 [5]. However, this mortality rate is less than 5% in high-volume operating centers (20 to 25 DPC per year) [6].

An evaluation of the Dindo and Clavien classification for post-operative complications over 5 years [7] confirmed its validity and applicability on a global scale in many surgical areas.

CASE REPORT

This is Mr. G A, 65 years old, BMI 23, type II diabetic for 13 years, who consults for isolated icterus with dark urine and faeces discolored. The onset of symptoms is one month old.

Upon clinical examination, the patient was icteric, hemodynamically stable, with pain localized to the right hypochondrium and scraping lesions. The gallbladder was palpable.

The biological workup showed: O+ blood group, TGO 85 IU/L (5–34), TGP 121 IU/L (0–55), PAL 381 U/L (40–150), GGT 869 IU/L (12–64), total bilirubin 64 mg/L (2–12), albumin 30 g/L (35–50), TP 94%, GB 4800/µL (4000–10,000), Hb 11.6 g/dL (12–17), HBS antigen negative, HIV 1/2 AC negative, AC anti-HCV negative. The CA 19-9 was greater than 500 U/mL (norm <37).

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The abdominal ultrasound revealed a dilation of the intra- and extra-hepatic bile ducts upstream of a non-visible obstacle to the ultrasound. A cholangio-MRI revealed a tumoral process of the pancreas head, with an intermediate signal in T2, moderate hypersignal in diffusion, enhanced after gadolinium injection, measuring 37 25 mm and extending over 44 mm. This process compresses the main bile duct to 17 mm, with an estimated dilation of 11 mm.

As part of the extension assessment, a thoraco-abdominopelvic scan was negative, with a favorable resectability assessment. A cephalic duodenopancreatectomy was performed with reconstruction according to Child, placement of a subhepatic Delbet plate and a gastric drain facing the wirsungo-jejunal anastomosis. The initial postoperative outcome was favorable, with authorization of feeding on day 4. A grade 1 pancreatic fistula was diagnosed, and the patient was discharged on day 20 after removal of the drain and the blade.

The anatomopathological examination revealed a pancreatic adenocarcinoma classified as T2N+M0. The first control, 10 days after discharge, was without particularities, except for a vague abdominal pain. The ultrasound showed a subhepatic fluid slide and in the right parieto-colonic splint.

Three weeks after discharge, the patient returns with an infectious table. The scan showed an intra-abdominal tubular formation of approximately 5 cm. The surgical revision revealed a fragment of the intra-abdominal gastric tube (used for drainage) responsible for a digestive wound at the level of a small loop. The foreign body was removed, the wound sutured and a peritoneal lavage performed.

On day 12 after this recovery, the patient presented a unilateral motor deficit. A brain scan confirmed a stroke. The patient died three days later.

DISCUSSION

Cephalic duodenopancreatectomy (DPC) is the standard procedure for pancreatic head tumours. Despite technical progress and the improvement of perioperative management, this surgery remains burdened with significant morbidity [2].

The large series report an overall morbidity of around 50 to 60% [1–4]. The main postoperative complications include pancreatic fistula, haemorrhages, delayed gastric emptying and intra-abdominal infectious complications. The evaluation and standardization of these complications are now based on the Clavien-Scandinavian classification, whose international validity has been confirmed after five years of use [7].

In a French multicenter study [9], the majority of complications were classified as Clavien I–II, corresponding to events requiring simple medical treatment. Major complications (Clavien III), involving an interventional or surgical procedure, represented a more limited proportion, dominated by clinically significant pancreatic fistulas, collections requiring drainage and postoperative hemorrhages.

In comparison with our case, the postoperative evolution falls within the spectrum of complications described in this series. However, the severity observed in our situation, evaluated according to the classification of Clavien-Scandinavian, corresponds to a complication at least of grade IIIb, due to the need for a surgical resumption under general anesthesia.

Regarding mortality, the German data show a hospital rate between 9.7% and 10.7% depending on the years analyzed [5]. However, this rate decreases significantly in high-volume operating centers, highlighting the major impact of institutional experience on results [6].

Age is an independent risk factor for mortality after DPC [4]. The risk increases from 60 years [4], although surgery remains possible in selected patients beyond 80 years, with acceptable results [8]. In our observation, the patient was 65 years old, thus representing a risk field without formal contraindication to the intervention.

Postoperative infectious complications represent a significant part of the morbidity after DPC [9]. In our case, the late infectious complication was related to an unusual mechanism: the retention of a gastric tube fragment used as an abdominal drain, responsible for a small bowel perforation and intra-abdominal sepsis. This complication is of a high grade according to Clavien-1s, contrasting with the predominance of minor forms reported in the French series.

Finally, the average duration of hospitalization after CPD remains prolonged, particularly in Europe, in connection with the frequency of postoperative complications [8,9]. In our case, the release had been authorized on the 20th postoperative day, which corresponds to the delays usually observed in the European series.

Thus, despite the gradual decrease in mortality, DPC remains a major surgery, exposing patients to severe and sometimes atypical complications. Our observation highlights the importance of rigorous control of intraoperative equipment and systematic verification at the end of the procedure in order to prevent potentially serious iatrogenic complications.

Table 1: Clavien-Dindo classification.

Grades	Definitions of grades	Modes of therapy
Grade I	Any deviation from the normal postoperative course.	No pharmacological or surgical treatment, endoscopic or radiological interventions were required. Acceptable therapeutic regimens are drugs such as anti-emetics, antipyretics, analgesics, diuretics, and electrolytes and physiotherapy. Wound infections or small abscess requiring incision at bedside is within this category.
Grade II	Normal course altered	Pharmacological management other than in Grade 1. Blood transfusions and total parenteral nutrition are also included.
Grade III	Complications that require intervention of various degrees	Sub-classified into: Grade IIIa – complications that require an intervention performed under local anaesthesia. Grade IIIb – interventions that require general or epidural anaesthesia.
Grade IV	Complications threatening life of patients (including CNS complications), requiring ITU support	Further sub-classified into: Grade IV a – single organ dysfunction (including dialysis). Grade IV b – multi-organ dysfunction.
Grade V	Death of a patient	

Figure 1: Classification of clavien suse

CONCLUSION

Cephalic duodenopancreatectomy remains a major intervention, technically demanding, with still high morbidity despite technical progress and the centralization of care. Our observation highlights an exceptional post-operative complication, the presence of an intra-abdominal foreign body leading to digestive perforation and sepsis. Several lessons can be learned from this case. It is essential not to neglect any post-operative symptoms, even mild or transient ones. Post-operative abdominal CT should be systematically considered for at-risk patients after CPD. The equipment and the technical platform must be adapted, notably by avoiding the use of gastric probes as an abdominal drain. Finally, the training of paramedical staff is essential, because the removal and manipulation of abdominal drains require a rigorous protocol and particular vigilance. This case highlights the importance of strict material management and proactive post-operative monitoring to prevent rare but serious iatrogenic complications.

Conflicts of Interest: none related to this article

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