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Case Report

Chronic Pancreatic Cyst Complicated by Parapancreatic Abscess Duodenum Compression, and Gastrogenic Tetany

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Abstract

A 39-year-old patient transferred to the surgical department complained of pain in the epigastric zone with general weakness and nausea, as well as vomiting. During physical examination, no fever, pulse = 84 pbm, RR=20bpm. The liver is not enlarged with even edges. In the left hypochondria positive signs of Kerte. No other pathological changes on physical examination. On ECG, sinus rhythm, HR= 88, deviation electric heart axis with hypertrophy to the right, prolongation of the QT interval =0.56 second. Lower wall of the left ventricle changes (ST segment depression in I, II, III, aVF with smoothed ST on V1-6). The patient was treated surgically through transduodenal drainage application. The clinical value of the case, we report successful management of pancreatic cyst with two transduodenal tubes and we recommend consideration of such operation in the management plan of surgeons for chronic pancreatic cyst.

Keywords: Cyst; Pathogenesis; Pancreatitis

Case Presentation

A 40-year-old patient transferred to the surgical department complained of pain in the epigastric zone with general weakness and nausea, as well as vomiting. During physical examination, pulse = 84 pbm, RR=20bpm. The liver is not enlarged with an even edge. In the left hypochondria positive signs of Kerte. No other pathological changes on physical examination. On ECG, Sinus rhythm, HR= 88, deviation electric heart axis with hypertrophy to the right, prolongation of the interval QT=0.56 sec. Lower wall of the Left Vent. Changes (ST segment depression in I, II, III, aVF with smoothed ST on V1-6).

Other instrumental diagnostics include laboratory analysis, esophagogastroduodenoscopy, and abdominal ultrasound. On esophagogastroduodenoscopy Stenosis of the pyloric with accumulation of gastric content in the stomach. Also, erosive ulcerations in the esophagus. On abdominal ultrasound, in the head of the pancreas, a formation with thick contents 42 x 27 mm, a formation of space 67 x64mm with a thick viscous mass. In addition, the stomach is sharply enlarged and intestinal peristalsis is markedly reduced. There are no pathological free fluids in the abdominal cavity. The conclusion was made, a liquid formation in the head pancreas (Figure 1). Laboratory examination changes shown in (Figure 2). The treatment plan includes the preparation of the patient for the operation and the operative and postoperative period (Table 1). The decision was to drain the cyst with the abscess content after evaluating the clinical status of the patient. on 04/21/2022 operation; drainage of an abdominal abscess, under local anesthesia sol. Novocaini 0.5%, 30 ml in the right iliac region. At 2 optimal points, 2 drains were installed in the abscess, for injection and withdrawal of anesthetics. (Figure 3) Drainage is working and 150 ml of thick pus. The patient remained in the hospital for reanimation for 8 days and received the treatment plan according to the mentioned doses and duration (Table 2).

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After surgery, evaluation by laboratory and abdominal ultrasound showed improvement in laboratory changes and the clinical picture of the patient (Figure 4). According to the clinical status of the patient and the laboratory, as well as the ultrasound changes, there is a rapid improvement in the patient's health status. Therefore, the patient is discharged home after 13 day of hospitalization. Follow-up examinations for 6 months; 1, 3, 6 months.

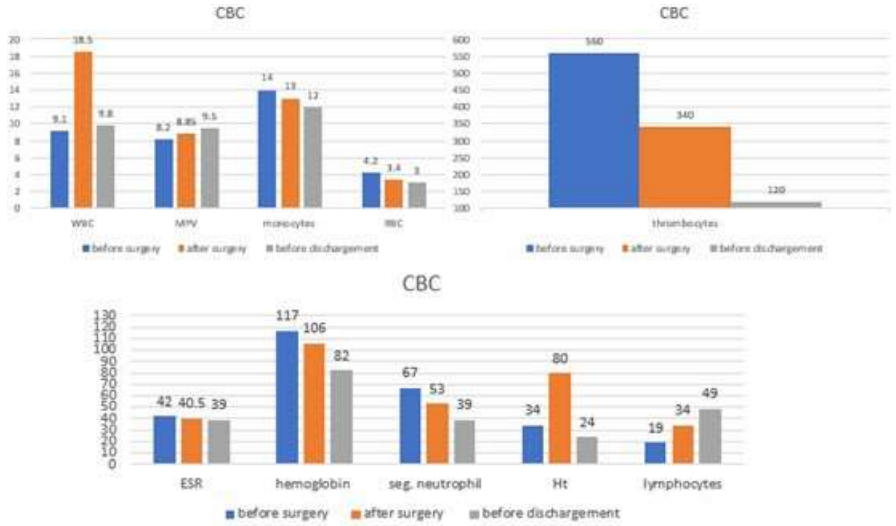
Figure 1: Abdominal Ultrasound. Cyst in the head of the pancreas with duodenum compression.

Table 1: Conservative therapy plan for the patient with chronic pancreatic cyst complicated by parapancreatic abscess, duodenum compression, and gastrogenic tetany.

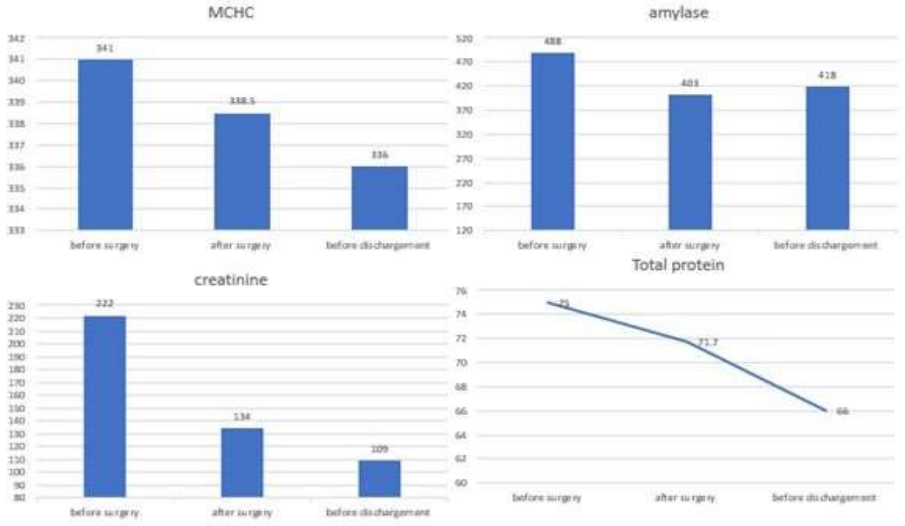
Treatment plan

- **Preoperative**
  - NaCl 0.9%-500ml+KCl 4%-100ml +MgSo4 25% -5ml /IV/drip
  - Cerecard 250 mg + NaCl 0.9 %-200ml/IV/drip (antioxidant)
  - Metronidazole 0.5% - 100 ml IV drip
  - Famotidine 40 mg + NaCl 0.9% - 250 ml IV drip
- **Operation**
  - Transcutaneous cyst drainage with two tubes for drainage (one opens in the cyst, the second opens in the duodenum)
- **Post operative**
  - Metronidazole 0.5% - 100 ml IV drip
  - Solution Acesol 800 ml IV drip
  - NaCl 0.9%-500ml+KCl 4%-100ml +MgSo4 25% -5ml /IV/drip
  - Famotidine 40 mg + NaCl 0.9% - 250 ml IV drip
  - Heparin 5000 IU s/c
  - Platyphylline 0.2% -2 ml + NaCl 0.9% 250 ml/ IV/ drip (antispasmodic)
  - Novocain 0.25%-60 MJ + NaCl 0.9% - 500 ml/ IV/ drip
  - Furosemide 20 mg IV
  - Cerecard 250 mg + NaCl 0.9 %-200ml/IV/drip
  - Nutriflex (amino acids, glucose, electrolytes and fluid
  - Drotaverine 2%-2 ml/IM (antispasmodic; PD4I)
  - Diazepam (Sibazon) 0.5%-2ml/IV at 6 Pm (anxietolytic)
  - Solution Ondansetron (Nutilong)50 ml
  - Change body position
  - Nutricomp 50ml/PO
  - Omeprazole 20 mg 1 caps. 2 gr/d

Chronic pancreatic cyst complicated by parapancreatic abscess, duodenum compression and gastrogenic tetany



Laboratory analysis changes in response to Tx



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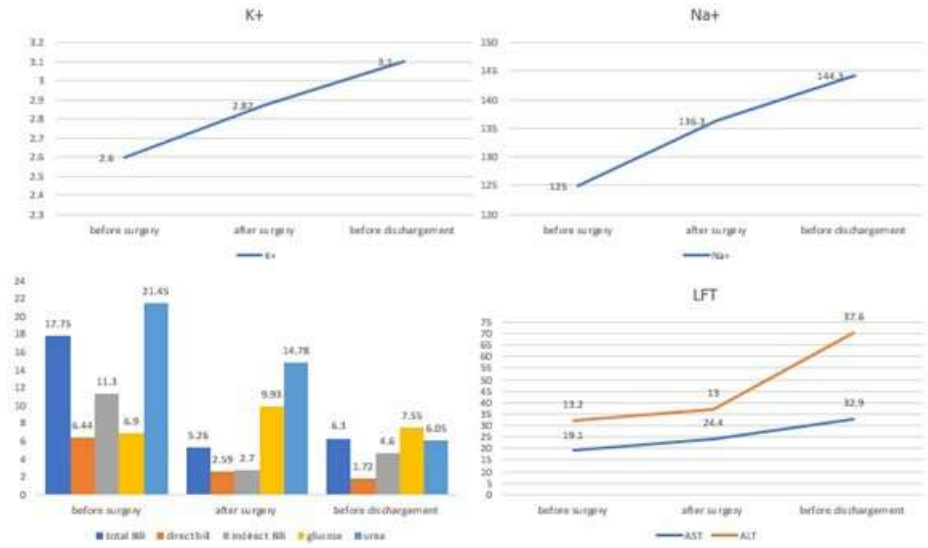
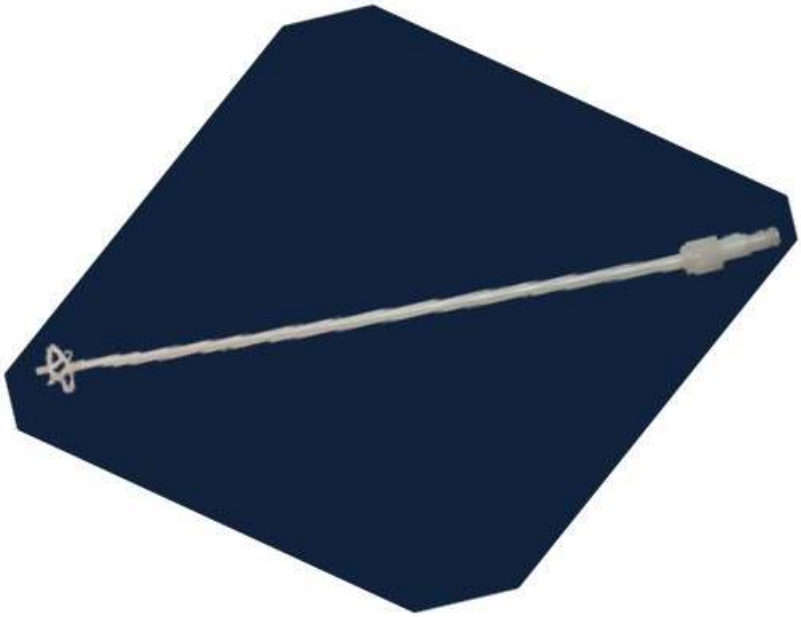


Laboratory analysis changes in response to Tx

Figure 2: Changes in laboratory analysis in response to treatment.



Drainage Tube

Figure 3: Two tubes used, one for insertion of the antiseptics into the cyst and the second for drainage. Due to the features of the tube, it is not visible on ultrasound. However, the second tube is visible and is presented in this figure.

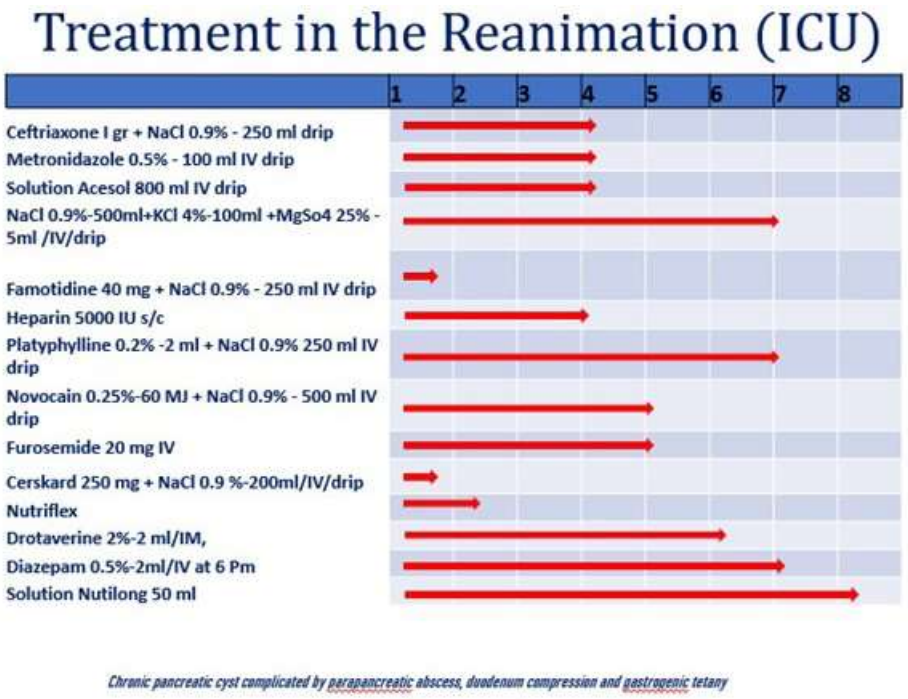
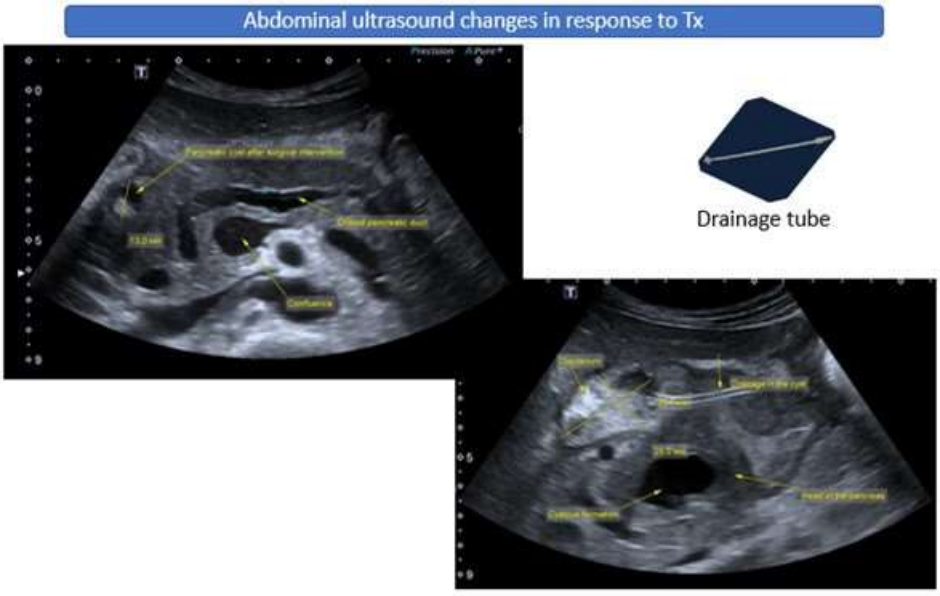
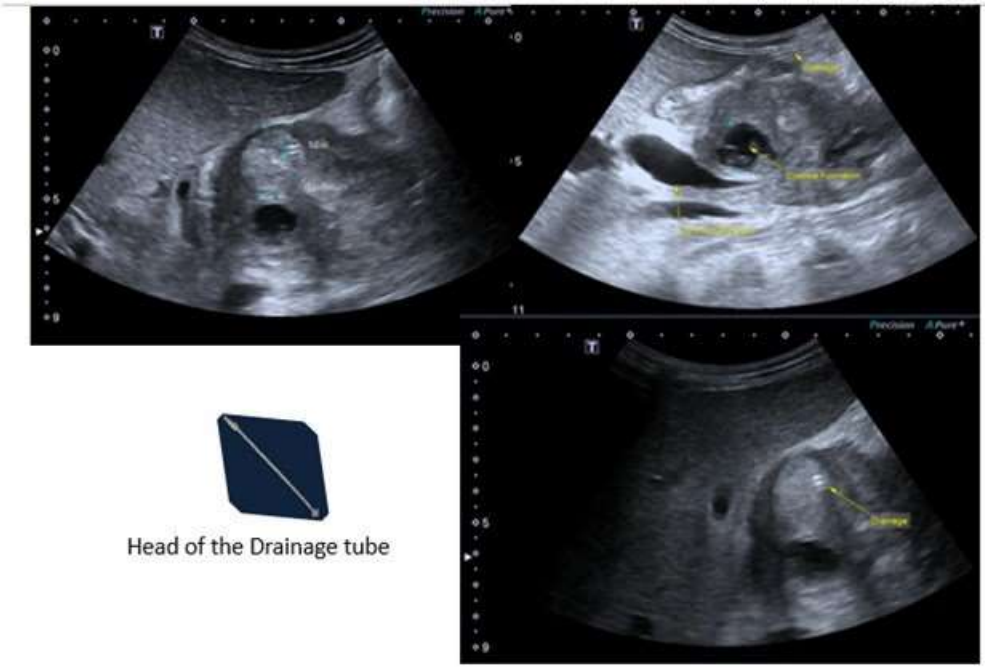


Table 2: Treatment in the reanimation shown in this table. The arrows show the duration of the drug administration (numbers in the upper row shows duration in days).



Chronic pancreatic cyst complicated by parapancreatic abscess, duodenum compression and gastrogenic tetany



Chronic pancreatic cyst complicated by parapancreatic abscess, duodenum compression and gastrogenic tetany

Figure 4: Abdominal ultrasound changes in response to surgical therapy.

Discussion

Pancreatic cysts can be true or pseudocysts [1]. Patients with chronic pancreatic cyst complicated by parapancreatic abscess, duodenum compression, and gastrogenic tetany can present without fever. Frequent prophylactic examinations of patients with chronic pancreatic cyst are important to prevent complications development. Complications of chronic pancreatic cyst less frequently reported in literature [2,3]. Some studies reported pancreatic pseudocyst complicated by rupture [4]. We report potential complications that required early acting from clinicians to decide on surgical removal of the cyst. Early recognition of pancreatic cyst reduces the further progression of the cyst size and allow for early differentiation between neoplastic growth and benign pancreatic growths [5–9].

Conclusions

Cysts of the head of the pancreas lead to a complex of complications such as compression of the choledochus, Wirsung duct, duodenum, which leads to severe deterioration of the functions of adjacent organs. Transduodenal (transgastric) drainage of the cyst allows to remove compression of the ductal system and adjacent organs, to eliminate jaundice, pancreatitis, duodenostasis and create an anastomosis for the outflow of pancreatic juice. The transorgan drainage is minimally invasive and its effectiveness is not lower than that of the traditional intervention (open surgery) [10].

In the presence of combinations of complications of a chronic cyst of the pancreatic head, the possibility of performing transcutaneous and transorgan drainage through the stomach or duodenum should be considered.

Declarations

1. Ethics approval and consent to participate: applicable
2. Consent for publication: applicable on reasonable request
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8. Authors' information: Basheer Abdullah Marzoog, medical school student at National Research Mordovia State University (marzug@mail.ru, +79969602820). Address: Bolshevitskaya st., 68, Saransk, Rep. Mordovia, 430005. ORCID: 0000-0001-5507-2413. Scopus ID: 57486338800
9. The paper has not been submitted elsewhere
10. The study approved by the National Research Mordovia State University, Russia, from “Ethics Committee Requirement N8/2 from 30.06.2021”. Written informed consent was obtained from the patient (his father) for publication of this case report and any accompanying images.

Competing Interests

No competing interests regarding the publication

Conflict-of-Interest

There are no conflicts of interest.

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