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Case Report

Acute pancreatitis in patient with malignant obstructive jaundice following percutaneous trans-hepatic biliary drainage: A case report

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Abstract

Background: Percutaneous Trans hepatic biliary drainage (PTBD) is a successful palliative treatment for malignant obstructive jaundice. Despite the past that PTBD complications occur more frequently. Currently, with the help of an ultrasound guide, these side effects and possibility of adjacent organ damages have decreased interestingly. One of the rare complications of this procedure is acute pancreatitis.

Case Presentation: We discuss an uncommon case of acute pancreatitis following PTBD in an elderly woman who presented to the hospital with jaundice and anorexia. Conservative therapy without decatheterization was the treatment of choice in our patient. Eventually after receiving conservative therapy for her pancreatitis, she was discharged from the hospital in good general condition and she has not experienced any episodes of abdominal pain again.

Conclusion: Acute pancreatitis is one of the causes of sepsis during PTBD catheterization. Early management of this complication after PTBD can decrease morbidity and mortality of the patients.

Keywords: Acute pancreatitis, Malignant obstructive jaundice, Percutaneous trans-hepatic biliary drainage (PTBD), Sepsis

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Percutaneous Trans hepatic biliary drainage (PTBD) is an effective therapy for malignant obstructive jaundice that reduces complications and decreases jaundice. PTBD can improve patients' quality of life in addition to increasing their survival (1, 2). Nonetheless, this effective therapeutic approach is regarded as an invasive procedure that might result in complications (3, 4). Bleeding, acute cholangitis, sepsis, intrahepatic hematoma, venous-biliary fistula, pneumothorax, biliary tract perforation, and peritonitis are among the complications (5). Acute pancreatitis is a significant and rare PTBD complication that has been reported in a few cases. This serious complication, on the other hand, could negate the therapeutic advantages of PTBD and risk the patient's life (6).

Case Presentation

A 74-year-old woman with a history of breast cancer and a prior mastectomy was referred to Imam Reza Hospital's Interventional Radiology Department for PTBD catheterization owing to her malignant obstructive jaundice (regarding breast cancer metastatic lesions). Following pruritus and stomach discomfort 10 days prior to admission, the patient had progressive jaundice and anorexia. Her hemoglobin (Hb), total bilirubin, and white blood cells (WBC) levels were 12.7 mg/dL, 11.20 mg/dL, and 7000 per mm3, respectively, when she arrived at the hospital. PTBD catheterization was done promptly upon admission with no complications.

An expert interventional radiologist performed the initial puncture under the guidance of the Siemens Acuson Juniper ultrasound system, and then the drainage was done using the Siemens Artis Zee angiography with fluoroscopic guidance (figure 1). The patient was given metronidazole and ciprofloxacin to take before and after PTBD catheterization. Within two days of PTBD, total bilirubin had dropped to 7.2 mg/dL. On the second day following the procedure, the patient had severe and persistent epigastric pain that radiated to the back. Following examinations, Hb (9.9 mg/dL) and albumin (2.3 mg/dL) levels were found to be lower, but WBC (12,000 per mm3), amylase (218 units per liter), and C-reactive protein (CRP) (423 mg/l) levels were higher. Clinical (severe and persistent epigastric pain distributed to the back) and laboratory (increased level of amylase and WBC) findings suggested acute pancreatitis. Finally, computed tomography (CT) of the abdomen and serum amylase and lipase confirmed the patient's acute pancreatitis (figure 2).

As a result, the patient was managed conservatively, with intravenous fluid replacement, nil per os (NPO) status, and analgesics administered without the necessity for PTBD decatheterization. After a few days, these treatments relieved the patient's pain, and she was discharged when her vital signs stabilized and no systemic complications were identified.

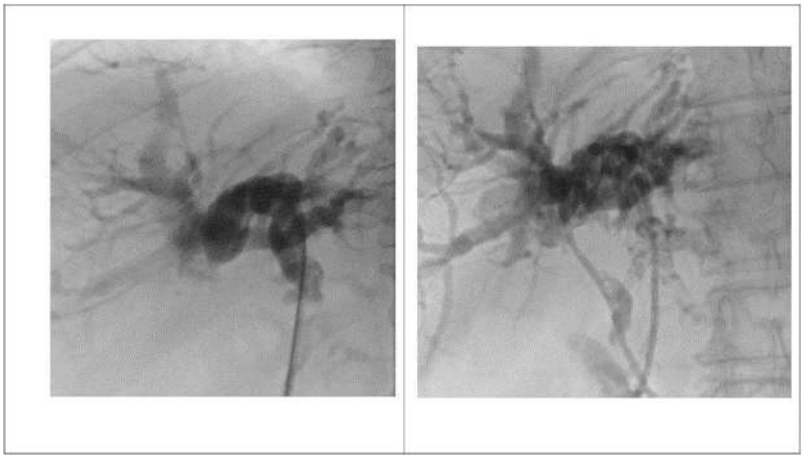

Figure 1. PTBD catheterization with fluoroscoipic guidance.

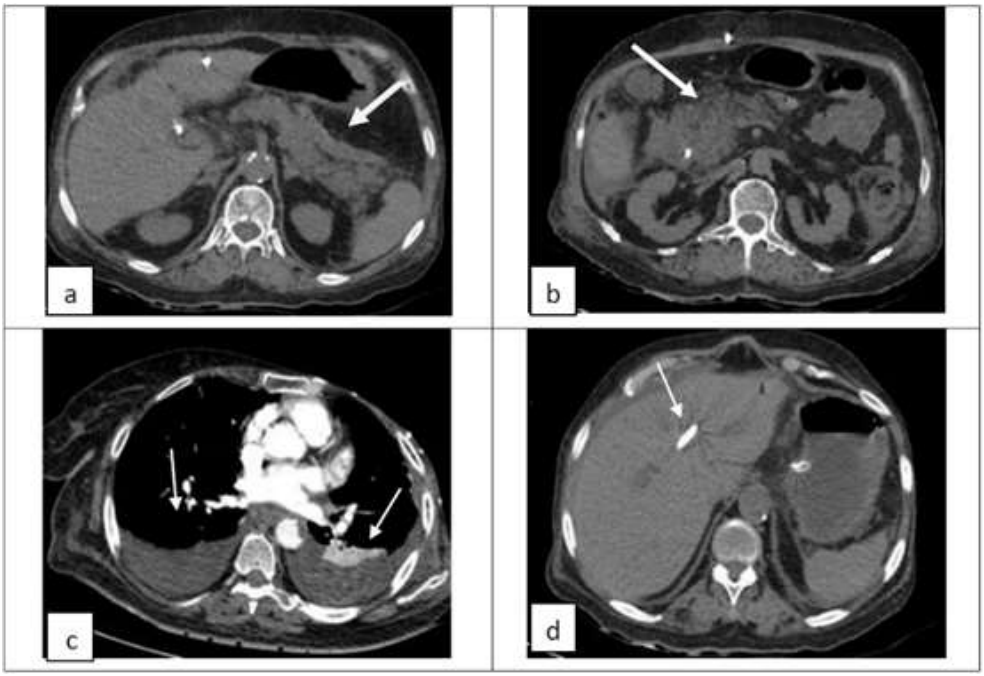

Figure 2. a, b) The pancreas is swollen, and stranding of surrounding fat tissue indicates pancreatitis. Fluid accumulation in sub hepatic and left anterior pararenal spaces. c) Bilateral pleural effusion with underlying lung collapse is evident. d) There is ample evidence of PTBD catheterization.

Discussion

PTBD is one of the most used treatments for biliary obstruction especially in central occlusions of biliary tract. In the past, PTBD was completely performed under a fluoroscopic guide. But currently, the primary puncture is performed with the assistance of ultrasound, and for this reason, the complications of this procedure have significantly decreased compared to the past. With recent developments in technology and medical equipment, PTBD has demonstrated good efficacy with fewer complications and less suffering (6-8). Given the success of PTBD, it is important to be aware of its complications to modify this procedure into an effective therapy with the fewest complications feasible (9, 10). Severe complications, such as cholangitis and hemorrhage, might worsen the patient's condition and raise the risk of postoperative morbidity, although cholangitis has decreased due to antibiotic use before the procedure (11, 12).

The processes by which PTBD causes acute pancreatitis are poorly understood. One probable mechanism is distal biliary intervention, which has been linked to the development of acute pancreatitis following endoscopic retrograde cholangiopancreatography (4). Certain previous studies (10, 11) suggested that acute pancreatitis aggravating PTBD may be associated with hemobilia in some patients. Hemobilia can induce acute pancreatitis in the same manner as gallstones can, by obstructing bile flow from the ampulla. According to Tapping et al., the prevalence of PTBD complications is over 15%, with early complications accounting for 6%. (Under 24 hours). Low Alb (less than 30 mg/dL) and Hb (less than 11 mg/dL), as well as high CRP (more than 50 mg/l) and WBC (over 12,000 per mm3), were variables that predicted such complications (4). Similarly, our case report found that after PTBD catheterization, the patient's Hb and Alb levels dropped but the WBC and CRP levels increased. In such patients, laboratory data, in addition to clinical symptoms, can aid in the diagnosis of acute pancreatitis (2). Nadia et al. investigated the prevalence and risk factors of acute pancreatitis after PTBD catheterization in 40 malignant obstructive jaundice patients. Their findings revealed that five patients (12.5 percent) had acute pancreatitis, three of whom were unable to undergo a scheduled surgical operation due to sepsis. All five acute pancreatitis patients were treated conservatively, with just two requiring critical care. However, there was no evidence of acute pancreatitis among them (13). Our case had been diagnosed with acute pancreatitis, and she was treated without any need for intensive care. In conclusion, although PTBD has fewer complications and a lower mortality rate than comparable techniques, early and appropriate care of complications can reduce morbidity and mortality (14, 15). Acute pancreatitis is one of the leading causes of sepsis following PTBD catheterization (16, 17). In general, patients who complain of abdominal pain after PTBD catheterization for the treatment of malignant obstructive jaundice should be considered acute pancreatitis and given to medical examinations and monitoring.

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Arash Khameneh Bagheri: Methodology; supervision. Mehran Malekshoar: Conceptualization; supervision. Payam Bafandeh Tiz: Writing – original draft.

Javad Jalili: Conceptualization; supervision.

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