Chylos Ascites and Chylothorax after Pancreaticoduodenectomy: Case Report and Literature Review

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Abstract

Chyle leak is a lesser known complication of pancreaticoduodenectomy. The purpose of this case report is to describe the unusual complication of chyle leak associated with pancreaticoduodenectomy, discuss our team’s management of this complication and review the literature describing postoperative chyle leaks.

Keywords: Chylous ascites; Chylothorax; Chyle leak

Introduction

Beginning with Codivilla and Kausch at the end of the 19th and early 20th century, the evolution of the pancreaticoduodenectomy has been marked by significant advances in operative technique as well as description and management of the mortality and morbidity associated with this procedure. Chyle leak is a lesser known complication of pancreaticoduodenectomy and is the focus of this report. The accumulation of chyle in the abdominal and/or thoracic cavities (chylos ascites and chylothorax) can be caused by a lymphatic leak following disruption of lymphatic channels or major lymphatic structures including the thoracic duct or cisterna chyli. If unaddressed, chyle leak can result in electrolyte abnormalities, malnutrition, immunodeficiency, sepsis and increased mortality. The purpose of this report is to describe a case of chyle leak associated with pancreaticoduodenectomy, discuss our team’s management of this unusual complication, and review the literature regarding postoperative chyle leaks.

Case Presentation

71-year-old male with a past medical history of multiple myeloma, hypertension, gastro esophageal reflux disease, chronic obstructive pulmonary disease, and Child’s alcoholic cirrhosis who presented with epigastria pain, anorexia, early satiety, fatigue, and a 60lb weight loss. CT abdomen and pelvis showed thickening of the second part of the duodenum with proximal dilatation of the duodenal bulb concerning for periampullary neoplastic process. Upper endoscopic ultrasound showed a thick ended and edematous duodenal bulb. Fine needle aspiration from the head of pancreas showed atypical cells.

The patient underwent an uncomplicated classic pancreaticoduodenectomy with gastrostomy tube and feeding jejunostomy tube placement because of his preoperative gastric outlet obstruction and significant gastric dilation.

The patient’s hospital course was complicated by erythematic and fluid leakage from the midline incision on postoperative day 9. The midline incision was partially opened and a large amount of thin, milky fluid drained from the wound. CT scan demonstrated a peri-pancreatic fluid collection and a large right-sided pleural effusion fluid (Figure 1).

The patient underwent percutaneous drainage of the abdominal fluid collection and thoracentesis. Fluid triglyceride was 907 mg/dL confirming chyle leak with chylous ascites and chylothorax. A wound manager was placed over the opened midline incision to control continued drainage. Daily output from the abdominal drain and wound manager ranged from 1-3.8L. Therefore, the patient was allowed nothing per os, treated with octreotide 100mcg SQ every 8 hours, and administered total parenteral nutrition. Over the next 7 days, drain output tapered down and transitioned in character from chylous to clear ascitic fluid with a normal triglyceride level, likely related to the patient’s underlying alcoholic cirrhosis. Eventually the output decreased to 325ml over 24 hours on postoperative day 17, at which point an oral diet was reintroduced. Ultimately, the drain was removed and the patient was discharged home on postoperative day 26 tolerating a regular diet.

Discussion

Chyle leak is a complication more often associated with esophagectomy, radical neck dissection, pneumonectomy or extensive...
In conclusion, chyle leak is an unusual complication associated with pancreatecoduodenectomy of which all pancreatic surgeons should be aware. This case illustrates accurate diagnosis and successful management of this problem using modern approaches.

References
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