

Pharmacological sclerosing of a cutaneous pancreatic fistula using tetracycline: a non-operative approach

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Abstract

A 32 year old male developed a pancreatic fistula following splenectomy for a peri-splenic pus collection which did not heal with total parenteral nutrition (TPN) and octreotide. Complete resolution was achieved by injection of tetracycline into the fistulous tract.

Introduction

A pancreatic fistula is a complication of acute pancreatitis, pancreatic surgery and splenectomy which results in significant morbidity, a long hospital stay and high cost [1]. The reported incidence of a pancreatic fistula following pancreaticoduodenectomy is 6-14% [2,3]. For a distal pancreatectomy it is about 5% [4].

Transection at the pancreatic body, splenectomy, absence of pancreatic duct ligation and not using a peri-operative somatostatin agonist are risk factors for fistulation following distal pancreatectomy [6,7].

In the absence of sepsis, pancreatic fistulas usually heal with conservative management [8,9]. Conservative management includes TPN, drainage of collections and the use of octreotide. However, clinical trials have shown conflicting evidence regarding the use of octreotide in managing pancreatic fistulas [10-12]. Those that are resistant to healing will need other interventions [1]. Surgical techniques for the treatment of intractable pancreatic fistulae include percutaneous trans fistulous pancreatic duct drainage (PTPD), percutaneous trans fistulous pancreatojejunostomy (PTPJ), and percutaneous trans fistulous pancreatic duct embolization (PTPE) [1,2].

Case Report

A 32 year old male was transferred to our unit for the management of a pancreatic fistula. He had an exploratory laparotomy for a peri-splenic pus collection which was confirmed by contrast enhancing computerized tomography.

On surgical exploration, a retroperitoneal pus collection in relation to the body and tail of the pancreas and spleen, and a pelvic collection was found. Drainage of the pus, a splenectomy and insertion of a wide bore drain was done. A drainage of thick pus of 50-150 ml/day persisted which was positive for amylase and cultured coliforms prior to transfer to our unit.

We initially managed him with total parenteral nutrition, octeotride injections and antibiotics. The fistula did not show any improvement after two weeks. He was commenced on oral feeding which did not increase the fistula output.

Five capsules of tetracycline were dissolved in 10ml of normal saline and injected through the drain tube with a view to achieving fibrosis of the tract. After 10 days the fistula output completely settled.

Discussion

In this patient, the presence of active infection around the pancreatic tail and spleen, and the difficulty in identifying tissue planes with possible iatrogenic pancreatic injury were possible aetiological factors for fistula formation. He was initially managed with TPN, IV antibiotics, peritoneal lavage through drains and octreotide injections. Conservative management is reported to be successful in about 90% of patients with distal pancreatic fistula [13], however this failed in our patient.

Prior to any endoscopic or surgical interventions we decided on a trial therapy with tetracycline into the fistulous tract to induce fibrosis. Tetracycline has been used as a sclerosing agent to heal post-operative chylous fistulas and broncho-cutaneous fistulas. With instillation of tetracycline through the drain tube a reduction of the drain output was noted. By the 3rd tetracycline instillation (on the 10th day of therapy) the fistula ceased to drain.

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Key Point:

- Pharmacological sclerosing of cutaneous pancreatic fistulae is a non-operative management option in selected patients.