The treatment of pancreatitis

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**ABSTRACT**

Pinchbeck, T. (2003) The treatment of pancreatitis. *Nursing Times*; 99: 8, 26–27. Pancreatitis is a complex and life-threatening condition. A multidisciplinary approach to patient care is required to ensure early diagnosis and treatment to improve patient outcome. Treatment is designed to support vital functions and prevent complications and admission to hospital is, therefore, necessary. This article provides an overview of pancreatitis from causes, presentation of signs and symptoms, and subsequent treatment. The importance of the nurse’s role in providing care and continuing support throughout the patient’s journey is also described.

The pancreas, situated beneath the stomach, is both an endocrine and exocrine organ. Its endocrine function includes production of insulin and glucagon, while its exocrine function is important for the digestion of proteins, starches and fats via the production of enzymes.

In a pancreas that is functioning normally, a protective system prevents digestive enzymes from being activated until they reach the intestines. Pancreatitis, acute or chronic, occurs when the pancreatic enzymes are activated while still in the pancreas, resulting in the destruction of pancreatic cells, ductal structures and other surrounding tissue – and subsequent inflammation.

**Incidence and mortality**

The condition mainly affects men aged between 40 and 50. Patients who suffer from advanced chronic pancreatitis have a shortened life expectancy by 10–20 years (Bornman and Beckingham, 2001). Accurate assessments of the incidence of acute pancreatitis are difficult to obtain due to geographical, aetiological and diagnostic variations. Reports of incidence in the UK range from 21–283 cases per million people, while the death rate of clearly diagnosed cases has stayed at 10–15 per cent during the past twenty years (BSG working party, 1998).

**Causes and complications**

Of the many causes of acute pancreatitis in the UK, gallstones is the most common (Box 1). Acute pancreatitis is a sudden severe attack on the pancreas, which usually resolves itself causing no long-term problems and will not recur if the cause is removed. Some people can have more than one attack and recover fully after each.

The main causes of complications are infection from bacteria in the intestinal tract and severe bleeding from the inflamed pancreas. Others include shock, respiratory failure, necrosis, pseudocyst, electrolyte abnormalities, pleural effusion and deep vein thrombosis (DVT).

The main cause of chronic pancreatitis in the UK is alcohol misuse although there are other reasons this condition may develop, including diet, acute pancreatitis, cystic fibrosis, heredity and idiopathy.

Chronic pancreatitis leads to a progressive destruction of the pancreas over time, associated with repeated pain attacks caused by tissue scarring. Chronic pancreatitis does not resolve itself. It results in the slow destruction of the pancreas, which may be associated with complications such as diabetes mellitus, malabsorption, biliary or duodenal obstruction and in some cases pancreatic cancer.

**BOX 1. CAUSES OF ACUTE PANCREATITIS**

**OBSTRUCTIVE**

Gallstones; pancreatic tumours; foreign bodies; pancreas divisum

**TOXINS**

Alcohol; scorpion venom; insecticides; drugs

**TRAUMA**

Accidental; postoperative trauma; ERCP

**OTHER**

Metabolic abnormalities; infection; vascular abnormalities; heredity; idiopathy

Acute pancreatitis unless complications resulting from scarring occur. However, people with chronic pancreatitis often have acute flare-ups.

**Signs, symptoms and diagnosis**

The main symptom of chronic pancreatitis is severe, dull, epigastric pain radiating to the back, often associated with nausea and vomiting. Epigastric tenderness is also common. Severe weight loss can occur as eating usually causes pain. If the underlying cause is alcohol misuse patients can already be malnourished. Steatorrhoea – pale, loose, offensive stools that are difficult to flush – may be present. This occurs when over 90 per cent of the pancreatic exocrine tissue is destroyed. Early diagnosis of chronic pancreatitis can be difficult and is usually made by exclusion based on typical symptoms and a history of alcohol misuse (Bornman and Beckingham, 2001).

Acute pancreatitis also usually presents with pain in the upper abdomen; it can be severe or constant, reaching into the back. Symptoms can also worsen when the patient eats, lies down or drinks alcohol. In mild cases pain will last a few days, this constitutes 80 per cent of all attacks and less than 5 per cent of deaths (BSG working party, 1998).

In more severe cases patients can have swollen, tender abdomen, hypotension, tachycardia, fever, jaundice and dark foamy urine. Systemic signs of acute pancreatitis – hyperglycaemia, hypocalcaemia, increased white cell count and an elevated serum amylase (>200 units/l) appear during the first 24–72 hours (Schlapman, 2001). If acute pancreatitis is not treated other life-threatening complications can develop. About 20 per cent of patients will have an attack rated as severe and 95 per cent of deaths will occur in this subset (BSG working party, 1998).

The correct diagnosis of acute pancreatitis is essential...
for a full recovery. Chest and abdominal X-ray, clinical history, serum amylase and an ultrasound scan should be performed. However, if these are inconclusive then a computerised tomography (CT) scan can be indicated. According to the UK guidelines (BSG working party, 1998) the severity of pancreatitis should be rated in all patients within 48 hours of admission using a multifactor scoring system which will improve the accuracy of diagnosis to 70–80 per cent. The Glasgow score, CRP (blood C-reactive protein) and the acute physiology and chronic health evaluation (APACHE 11) scores are recommended. These should carried out by medical staff.

**Treatment**

Treatment for chronic pancreatitis includes effective pain management, eating a well-balanced diet and enzyme supplements. Surgery is indicated in patients if pain management is ineffective or if complications of chronic pancreatitis develop. The UK guidelines for acute pancreatitis (BSG working party, 1998) recommend that patients who present with a mild attack should be managed on a ward with basic monitoring, peripheral intravenous therapy (PIT) and restriction of food. In the absence of bowel sounds a nasogastric tube should be considered to rest the pancreas.

Endoscopic retrograde cholangiopancreatography (ERCP) should be carried out to detect gallstones, abnormalities or tumours. In patients who have gallstone pancreatitis without complications a cholecystectomy and bile duct clearance should be carried out within two to four weeks. However, patients who develop severe acute pancreatitis need full resuscitation using a multidisciplinary approach. This complex group of patients should be managed in an high dependency or intensive care unit setting with full monitoring and system support. A CT scan should be carried out within three to 10 days of admission in order to assess the extent and severity of necrosis, and draw up a surgical strategy, with follow-up scans to detect the development of local complications.

Prophylactic antibiotics should be given to prevent septic complications. ERCP should be carried out in patients with from severe pancreatitis if there is no response to treatment within 48 hours, they may also benefit from ERCP with duct drainage and clearance if ascending cholangitis develops. A CT scan with needle aspiration can be useful in the early detection of infected necrosis. Magnetic resonance imaging (MRI) can also be used to differentiate between solid and fluid inflammatory collections, sometimes more effectively than CT. Management in, or referral to, a specialist unit is necessary for patients with extensive necrotising pancreatitis or other complications, which may require ICU care, interventional radiological, endoscopic or surgical procedures (BSG working party, 1998).

**Nursing care**

Patients are usually designated nil by mouth and have a nasogastric tube inserted to reduce pancreatic enzyme production so it is important nurses provide regular mouth care to patients. The nurse and dietitian should work together to determine the patient’s nutritional needs. Total parental nutrition (TPN) is often used when food intake is restricted for long periods. However, recent studies have shown enteral feeding is well tolerated, with no adverse clinical effects and significantly fewer complications than TPN (Schlapman, 2001). Nurses should follow local policy when administering TPN and ensure patients eat a well-balanced diet once their condition allows, usually when abdominal pain has subsided and on doctors’ instruction.

The nurse should monitor patients regularly for signs of tachycardia, pyrexia, hypotension, and maintain a strict fluid balance chart and record hourly urine output (the optimum being on or above 30ml/hour) to observe haemodynamic status, as hypovolaemia, shock, sepsis or renal failure may develop. Anti-emetics should also be given as requested by patients to reduce nausea and vomiting. The patient should be observed for signs of muscle twitching, tremors and irritability related to alcohol withdrawal or electrolyte imbalance. Patients should also be observed for signs of redness and swelling in their legs, given the risk of developing DVT. Therefore, nurses should ensure antithrombus stockings are worn and patients are regularly mobilised.

Oxygen saturation levels should be monitored four-hourly, as breathing can become shallow due to pain or ascites caused by the pancreatitis. Low oxygen saturation levels (less than 95 per cent) may indicate the patient requires additional oxygen therapy or has decreasing respiratory function. The physiotherapist should educate the patient in the importance of coughing and deep-breathing exercises.

Nurses should use an effective pain scale to assess the patient and liaise with the pain team. In the acute phase most patients require morphine patient controlled analgesia: some patients are on opiate analgesia for long periods and require support and education. Monitoring of blood sugar is vital as hyperglycaemia can develop; insulin should be given if needed. Patients with severe pancreatitis require extensive emotional support due to the often lengthy course of hospitalisation and the pain and uncertainty of recovery (Aronson, 1999). Nurses should refer patients to a clinical psychologist for further support if required.

**Health promotion**

On discharge from hospital patients need to be educated about signs and symptoms that may indicate recurrence or complications of pancreatitis. Patients should be advised to stop drinking alcohol even if this is not the cause of their pancreatitis as it stimulates the production of pancreatic juice. Patients should also be encouraged to stop smoking as this stresses the body’s natural defence mechanism against inflammation and may contribute to pancreatitis. Education on eating a well-balanced diet should be given and, if diabetes has developed, insulin injection and monitoring of blood glucose levels need to be taught.

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**REFERENCES**


