Recent trends in Management of Acute Pancreatitis

Essay
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Introduction

Pancreatitis is an inflammatory disorder of the pancreas which occurs with an estimated incidence of 10-40 per 100 000 per year. Mild acute (edematous or interstitial) pancreatitis accounts for 80% of cases, is self-limiting, and usually resolves with simple supportive management in 3-5 days. Severe acute pancreatitis (SAP) accounts for the remainder of cases and was defined by the Atlanta Symposium as acute pancreatitis associated with organ dysfunction or local or regional complications .Most deaths from SAP result from sepsis and multi organ failure. Mortality in patients with infected pancreatic necrosis is 25-30%, compared with 10-12% in those with sterile necrosis **(Simon et al., 2008).**

There are many causes of pancreatitis, broadly classified as obstruction of the secretory tree or direct parenchymal cell damage. Over 70% of cases of acute pancreatitis in the UK are caused by alcohol or gallstones. Women are more likely to suffer from gallstone pancreatitis, and men more likely to suffer from alcohol-related pancreatitis. Approximately 10-20% of cases are idiopathic **(Simon et al., 2008).**

Acute pancreatitis in childhood is not common. It can be associated with severe morbidity and mortality. Trauma is a major cause of pancreatitis in children. Early diagnosis, close monitoring, and proper intervention are mandatory to reduce the potential morbidity and mortality **(Ibrahim et al., 2011).**

Acute pancreatitis remains the most common complication of Endoscopic retrograde cholangiopancreatography (ERCP). The

incidence of post-ERCP pancreatitis (PEP) varies from 1% to 40% partly as a result of the definition of PEP **(Li-Ming et al., 2009).**

The symptoms of pancreatitis usually include severe constant epigastric Pain radiating to the back and flanks, and vomiting. Signs may include Pyrexia, abdominal distension, and peritonism. The classical signs of Discoloration of the flanks (Grey-Turner's sign), peri-umbilicus (Cullen's Sign), and inguinal ligament (Fox's sign) are not always seen and are a result of retroperitoneal haemorrhage tracking along tissue planes. IN addition, symptoms and signs of end-organ involvement may be evident, including respiratory distress, shock, oliguria, jaundice, and delirium. It is also possible for SAP to be painless **(Simon et al., 2008).**

Amylase, lipase, and trypsinogen are all enzymes derived from pancreatic-Acinar cells;

they can be measured with relative ease. Serum amylase is most commonly used in clinical practice. A level of greater than three times the normal upper range (The Normal Upper Range: 300 IU/litre-1) Supports the diagnosis of pancreatitis. Serum amylase tends to rise quickly in the first 12 h, returning to baseline within 3-5 days **(Srivastava et al., 2005).**

Serum lipase has been recommended as the assay of choice when available. Lipase concentrations are increased for up to 14 days after Onset of pancreatitis, and appear to be more sensitive and specific than Amylase **(Matull et al., 2006).**

Acute Pancreatitis is managed by:

Conservative:

1. Antibiotic prophylaxis

2. Fluid Resuscitation

3. Nutritional support: comparing enteral nutrition (EN) with parenteral nutrition (PN) has shown that enteral feeding is better Than PN or equally effective, is cheaper, and has fewer complications. Enteral nutrition (EN) is important in restoring and If provided early, probably preventing morphological changes in the intestine **(Eatock et al., 2005).**

Surgical:

Pancreatic debridement or drainage in patients with infected. Pancreatic necrosis and/or

abscess confirmed by radiologic.Evidence of gas or results of fine needle aspirate. The gold standard for achieving this goal is open operative debridement. The greatest change in the treatment of acute pancreatitis is that surgery has been transformed from an immediate measure in necrotizing disease\to a late intervention. Although large prospective, multicenter studies are still lacking, the pendulum has swung towards conservative treatment across the world, conservative measures are tried first even in the Presence of infected necrosis. Surgical intervention is reserved for complications in the later stages of the disease **(Paul et al., 2010).**

Aim of the Work

The aim of this study is to discuss causes, diagnosis and recent trends in management of **acute pancreatitis**.

Chapter (1)
Anatomy of the Pancreas

The name of pancreas is derived from the Greek 'pan' (all) and 'Kreas' (flesh). It was originally thought to act as a cushion for the stomach **(Satyajitet al., 2012)**.

The pancreas is the largest of the digestive glands and performs a range of both endocrine and exocrine functions. The major part of the gland is exocrine, secreting a range of enzymes involved in the digestion of lipids, carbohydrates and proteins. The endocrine function of the pancreas is derived from cells scattered throughout the substance of the gland: they take part in glucose homeostasis and are also involved in the control of upper gastrointestinal motility and function. The pancreas is salmon pink in colour with a firm, lobulated smooth surface. The main portion is divided into four parts, head, neck, body and tail, purely on the basis of anatomical relations: there are only very minor functional or anatomical differences between each part. The pancreas also possesses one

accessory lobe (the uncinate process), which is anatomically and embryologically distinct. In adults the pancreas measures between 12 and 15 cm long and is shaped as a flattened ‘tongue' of tissue, thicker at its medial end (head) and thinner towards the lateral end (tail). With age, the amount of exocrine tissue tends to decline, as does the amount of fatty connective tissue within the substance of the gland, and this leads to a progressive thinning atrophy which is particularly noticeable on CT scanning **(David et al., 2011).**

Location:

The pancreas lies within the curve of the first, second and third parts of the duodenum, and extends transversely and slightly upwards across the posterior abdominal wall to the hilum of the spleen, behind the stomach. It does not lie in one plane but is effectively ‘draped' over the other structures in the retroperitoneum and the vertebral column and so forms a distinct shallow curve, of

which the neck and medial body are the most anterior parts. Because of its flattened shape, the parts of the pancreas, particularly the body, are often referred to as having surfaces and borders **(Susan et al., 2011).**

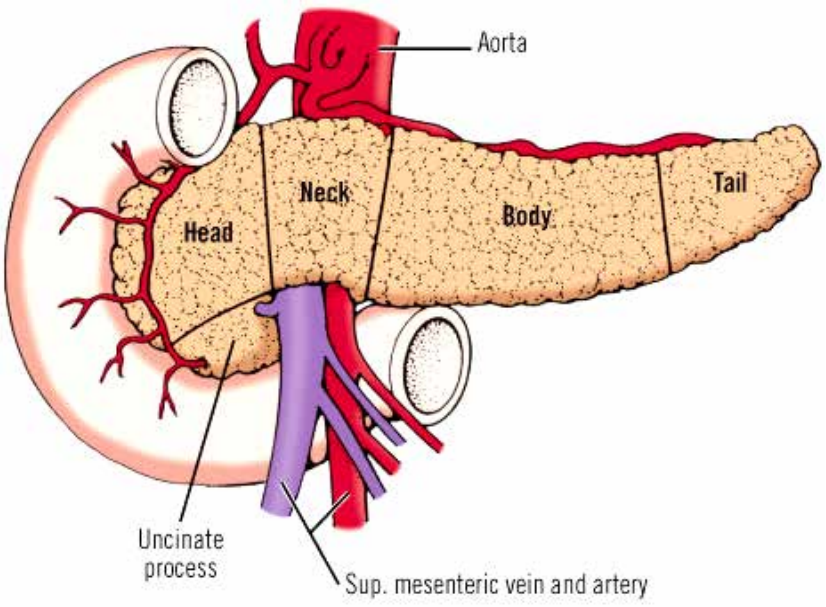

Fig. (1): Four parts of pancreas **(Skandalakis et al., 2012).**