



Original Communication

Postmortem diagnosis of acute haemorrhagic pancreatitis

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ABSTRACT

Forensic pathologists can help in the investigation of sudden unexpected deaths in co-operation with the officials responsible for the maintenance of law and order to administer justice. Sudden unexpected deaths form the subject of medicolegal investigation if they occur in apparently healthy individuals, wherein an autopsy would shed light regarding the cause of death. A 4 year retrospective review of autopsy files at the Department of Forensic Medicine, Kasturba Medical College, Mangalore, South India was undertaken for cases of sudden unexpected deaths due to acute haemorrhagic pancreatitis occurring between May 2004 and April 2008. A total of seven cases of acute haemorrhagic pancreatitis diagnosed at autopsy as the cause of sudden unexpected death during the study period are discussed herein.

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1. Introduction

One of the most difficult tasks for a forensic pathologist is opining the cause of death in sudden, unexpected, unwitnessed and medically unattended deaths.¹ In such circumstances, a forensic pathologist would not be able to opine with certainty that the death was natural in manner unless a full autopsy is performed. Sudden deaths are mainly attributed to the cardiovascular system. 45% of sudden deaths are related to the cardiovascular system, 25% to the respiratory system, 20% to the nervous system and 10% due to other causes.² In such deaths, a detailed autopsy may ultimately prove or

disprove any allegations, which may be of significant value to the investigating authority. Sudden deaths due to acute haemorrhagic pancreatitis are comparatively uncommon. Herein, we describe a medicolegal autopsy case series of sudden unexpected deaths due to acute haemorrhagic pancreatitis.

2. Materials and methods

The autopsy files at the Department of Forensic Medicine, Kasturba Medical College, Mangalore, South India were reviewed for sudden unexpected deaths over a 4 year period from May 2004 to April 2008. In addition, the related police records were evaluated. The cases of sudden unexpected death due to acute haemorrhagic pancreatitis diagnosed at autopsy were identified. The age and sex of the deceased, circumstances of the death and autopsy findings of

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these cases forming the cohort of the study were summarized. The Department of Forensic Medicine, Kasturba Medical College, Mangalore, South India caters to around 90% of the autopsy services in Mangalore City at the Government Wenlock District Hospital, Mangalore.³

A total number of 2515 cases were autopsied during the period of 4-year period, of which 274 cases (10.89%) were death of sudden unexpected origin. In these cases, cardiac causes were the most common entity (102 cases; 37.27%), followed by respiratory causes (73 cases; 26.64%). Gastro-intestinal related causes (29 cases; 10.58%) and the central nervous origin causes (24 cases; 8.76%) were the least. 46 cases (16.79%) were grouped as miscellaneous which included malignancies, septicemia, etc. Of the sudden deaths due to gastro-intestinal origin (29 cases), 7 cases were due to acute hemorrhagic pancreatitis (24.14%) which are discussed herein. Overall, 2.5% of sudden unexpected death cases autopsied during the study period showed acute haemorrhagic pancreatitis. The cause of death was opined as acute haemorrhagic pancreatitis in only 0.3% of the total number of cases autopsied during the study period.

3. Results

We studied seven cases of acute haemorrhagic pancreatitis during the 4-year period. Six of them were males and all were in the age ranging from 21 to 58 years. Four of the six males were known alcoholics. The only female was aged 56 years. The overall mean age was 35 years. One male and one female were known diabetics. All cases presented as acute onset of symptoms leading to death. All the cases described in our study had an oedematous pancreas with haemorrhagic infiltrate (Fig. 1) and local inflammation of the peritoneal sac and large haematoma or abdominal haemorrhage in the retro-peritoneal space (Fig. 2). In all the cases, histopathology was suggestive of acute haemorrhagic pancreatitis. Toxicological analyses were negative in all the cases except one.

3.1. Case details

3.1.1. Case one

A 36-year-old male after a binge of alcohol was brought dead to the emergency department of the hospital. External findings yielded no clue as to the cause of death. On postmortem examination, peritoneal sac was inflamed and haemorrhagic in the pancreatic area with abdominal haemorrhage in the retro-peritoneal space. The pancreas weighed 110 g and was oedematous, with areas of haemorrhage. There was no evidence of gallstones, infections or obstruction of the hepato-biliary and pancreatic ducts. The other

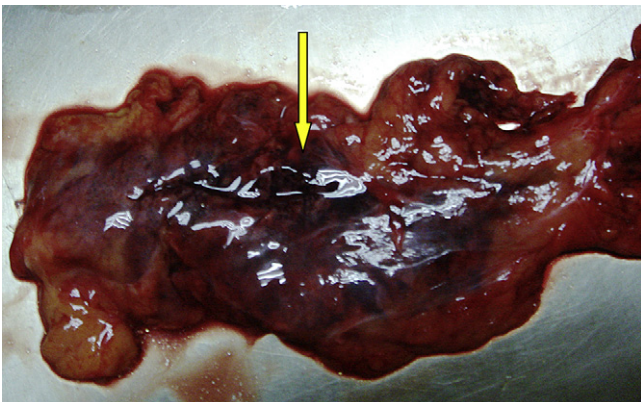


Fig. 1. Oedematous pancreas with haemorrhagic infiltrate.

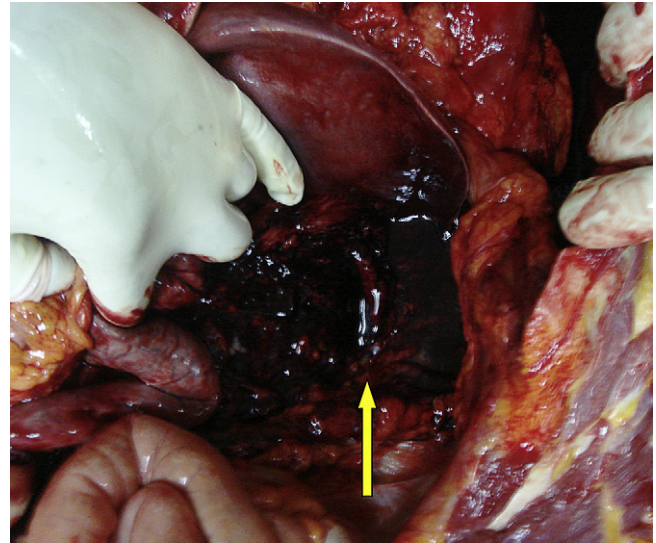


Fig. 2. Haematoma or abdominal haemorrhage in the retro-peritoneal space.

internal organs were congested. Pulmonary oedema and cerebral oedema were present. Histopathological sections of the pancreas showed extensive necrosis, haemorrhage and complete infarction of the parenchyma (Fig. 3). Lungs showed features of shock lung.

3.1.2. Case two

A 58-year-old male, a known diabetic patient, complained of chest pain and died on the way to the hospital. He used to consume alcohol regularly. At autopsy, the pancreas was oedematous and friable weighing 150 g with peripancreatic tissue haemorrhage and large haematoma in the retro-peritoneal space. Mild atheromatous changes were present in both the coronaries. However, there was no evidence of myocardial ischaemia. The brain and lungs were oedematous. Histopathology of the pancreas was consistent with acute haemorrhagic pancreatitis.

3.1.3. Case three

A 50-year-old male, alcoholic with recent past history of malaria was found dead in his room. There were no external injuries. On postmortem examination, all the organs were congested. Stomach contained partially digested food with alcoholic odour. The

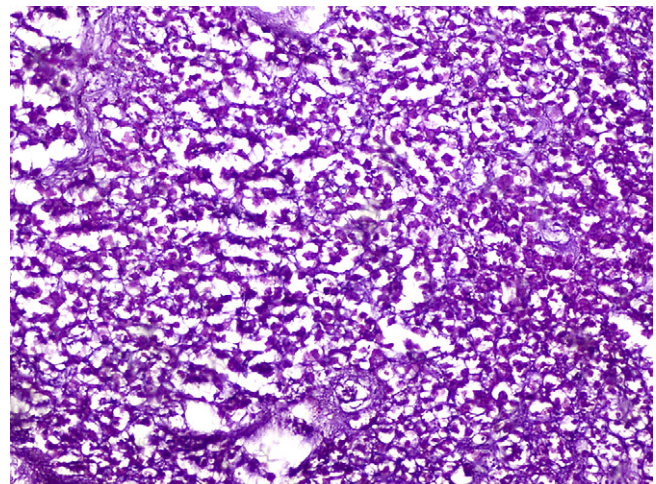


Fig. 3. Photomicrograph showing extensive necrosis and haemorrhage of the pancreatic acini and interstitium (Haematoxylin and Eosin $\times 200$).

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