

ABSTRACT

INTRODUCTION:

Acute pancreatitis is one among the commonest acute abdominal conditions presenting to casualty. Most commonly its Ethanol related acute pancreatitis. CT abdomen has been used widely to diagnose and also to exclude other acute abdominal conditions. Serum amylase is still being widely used to assist the diagnosis of acute pancreatitis. Most of the cases with typical symptoms can be diagnosed clinically but still few cases with atypical/mild symptoms with normal or subclinical serum amylase become difficult to diagnose. So this may result in misdiagnosis of cases of acute pancreatitis. Many newer investigations like serum procalcitonin, IL -6 and urinary trypsinogen-2 are now used in the diagnosis of acute pancreatitis. But most of these investigations are expensive and require trained personnel. Reports from Saxon et al¹, Budd et al², and Gambill et al³ has shown that the hourly excretion rate of urinary amylase could be more frequently abnormal in the presence of pancreatic diseases than the serum concentration of either amylase or lipase. Thus this study is done to find the significance of urinary amylase levels and its comparison with serum amylase and serum lipase in cases of acute pancreatitis.

Materials and Methods:

All patients admitted in Thanjavur medical college Hospital, during 2016 December to 2017 September with clinically suspected acute pancreatitis in the age group 25-45 and with CT findings suggestive of acute pancreatitis were included in the

study. Those with comorbidities like diabetes mellitus, hypertension and chronic kidney disease and those not willing for the investigations were not included in the study. In these cases serum amylase, urinary amylase (both done by Kit method with reagent used CNP-G3), and serum lipase (enzyme calorimetric method) was done within 24 hours of admission. Other investigations like complete hemogram, renal function test, were done and BISAP score was used in assessing the severity of pancreatitis. Reports were collected within one day and the values were compared. Their clinical significance and sensitivity in the diagnosis of acute pancreatitis, and its correlation to severity was analysed. Data were entered and analysed statistically.

Results:

A total of fifty in patients with acute pancreatitis were studied. All in the age group 25-45 years. Out of the fifty cases 48 were male and 2 female. Among the 50 cases 44 were due to alcohol related pancreatitis and 6 due to gallstones. Duration of symptoms was less than 4 days in 32 patients (64%) and more than 4 days in 18 members (36%). SIRS was evident in 38 patients (76%) and was not present in the rest 12 patients (24%). BISAP Score was 0-2 in 47 patients (94%) and 3-5 in 3 patients (6%). Based on CTSI 38 cases (76%) had mild acute pancreatitis (0-3) and 12(24%) had moderate acute pancreatitis(4-6), none had severe acute pancreatitis(7-10). Urinary amylase was elevated in all 50 cases (100%). Serum amylase was elevated >100 in 39 cases (78%), but significant (three times the upper limit >300) in 18 cases (36%), and 11 cases had normal values (22%). Serum lipase was elevated (>60) in 49 cases (98%) and normal in only 1 case (2%). Also urinary amylase was grossly elevated (>1001) in patients with BISAP Score >2 and CTSI >3. The sensitivity of serum amylase for value >100

was found to be 70%, and the sensitivity of urinary amylase value >500 was found to be around 83%.

Interpretation and conclusion:

In this study it was found that urine amylase was more consistently elevated in all patients with acute pancreatitis, and also in cases where serum amylase was in the normal range. Most of the cases with normal or low serum amylase values were those who had duration of symptoms less than 3 days. Thus urinary amylase measurement can be used as more sensitive tool in diagnosis of acute pancreatitis when compared to serum amylase, especially in those with late clinical presentation of acute pancreatitis. Urinary amylase was also correlating with severity of pancreatitis being grossly elevated in patients with moderate acute pancreatitis than mild acute pancreatitis.

Keywords:

Acute pancreatitis, Urinary amylase, CTSI, BISAP score, Serum amylase, Serum lipase.