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Title: Comparing acid steatocrit and faecal elastase estimations for use in M-ANNHEIM staging for pancreatitis

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1 What did this study explore?

The study explores the comparative usefulness of faecal elastase-1 estimation and stool fat analysis by the acid steatocrit method as tests for exocrine pancreatic function for the staging of pancreatitis using the M-ANNHEIM classification system.

2 How did the authors perform all experiments?

The authors discussed and got the protocol approved by the institutional ethics committee. A total of 194 consecutive patients recruited patients with pancreatitis (33 AP, 72 RAP and 174 CP) were included in the study. Consent was obtained from all participants. Demographic and clinical features such as age, gender, amount of alcohol intake, duration of symptoms and visual analogue scale, values / data for individual participants was written on a proforma.

Stool samples were obtained for assessing the faecal elastase -1 and stool fat analysis by the acid steatocrit method. The stool samples collected from all participants for estimating FE -1 were stored in a deep freezer at -80°C. FE -1 was measured by the enzyme-linked immunosorbent assay (ELISA) technique. The cutoff value for exocrine insufficiency was based on the values as per the manufacturer. Random spot stool samples were collected from all participants for estimating steatorrhea by the acid steatocrit method was determined by diluting the stool with distilled water and homogenising it. The stool was then mixed with Perchloric acid (pH of less than 1). The stool mixture was then transferred to a capillary tube, and centrifuged to obtain a fatty layer and a solid layer. The amount of stool fat in grams per day was calculated using the appropriate formula. The data were analysed using appropriate statistical methods.

3 How did the authors process all experimental data?

Demographic and clinical features were collected prospectively on a proforma. The same values were transferred to a Microsoft excel sheet, which was analysed statistically using the Statistical Package for the Social Sciences (SPSS) version 15 (SPSS South Asia, Bangalore, India). The Independent Student's t-test, Chi-square test, Spearman's rho, Kruskal-Wallis test, Mann-Whitney U test and McNemar's test were used as appropriate. $P < 0.05$ was considered as statistically significant.

4 How did the authors deal with the pre-study hypothesis?

The research question was to compare the stool fat analysis by the acid steatocrit method and FE-1 estimation in the staging of pancreatitis using the M-ANNHEIM

classification system. The authors brainstormed and the objective was to be specific, measurable, achievable, reproducible and was time bound.

5 What are the novel findings of this study?

The findings of this study show that FE-1 reassigned 28 (14.4%) patients to higher stages as compared to the acid steatocrit test, so we concluded that FE-1 estimation performed better than the acid steatocrit test for use in the staging of pancreatitis by the M-ANNHEIM classification.