

Comparing the Urinary Pancreolauryl Ratio and Faecal Elastase-1 as Indicators of Pancreatic Insufficiency in Clinical Practice

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Background: The urine pancreolauryl ratio (uPLR) and, more recently, the faecal pancreatic elastase-1, are widely used for the noninvasive diagnosis of exocrine pancreatic insufficiency. Both tests have previously been validated against 'gold standard' tests of pancreatic function, but their use in a clinical setting has never been directly compared.

Methods: We performed a comparative study of the pancreolauryl ratio (PLR) and the faecal elastase-1 (FE-1) test in patients with a clinical suspicion for pancreatic insufficiency. The results were compared with the clinical response to pancreatic enzyme supplementation using pre-defined criteria.

Results: Forty-five patients were enrolled in the study and 33 were given a trial of pancreatic enzyme supplementation. Twenty-four out of these 33 showed a positive clinical response to enzyme supplements. Of the 24 responders, 19 had positive FE-1 (<200 µg/g faeces), but only 12 had a positive uPLR (<20). There was a significant correlation between the FE-1 result and clinical response to enzyme supplements ($p = 0.01$), but not between the PLR and clinical response ($p = 0.15$).

Conclusions: FE-1 is a simpler test for the patient to perform and more accurately predicts the response to pancreatic enzyme supplementation in patients with chronic, unexplained diarrhoea with a clinical suspicion of pancreatic insufficiency than the PLR. This makes the FE-1 of greater use in clinical practice than the PLR.