Abstract

Background: Citrullinemia has been reported as a quantitative parameter of the enterocyte mass and function. Aim: The objective of this research is to analyse the value of fasting and stimulated citrullinemia in the intestinal function evaluation. Methods: A case-control study was undertaken, including 11 patients with short bowel syndrome, 13 patients submitted to malabsorptive bariatric surgery and 11 healthy controls. Plasma levels of amino acids were determined, before and after a stimulation test with oral L-glutamine, by ion exchange chromatography. Results: Citrullinemia was inferior in short bowel patients (28.6 ± 11.3 versus 35.5 ± 11 in operated obese versus 32.2 ± 6.6 mol/L in controls; n.s.) and lower than 25.5 mol/L in 54.5% of them (versus 16.7%; p = 0.041; accuracy = 74%; odds ratio = 3, 95%CI 1.2-7.6). Citrullinemia80 (relative variation of citrullinemia at the 80th minute of test) was lower in short bowel patients; its diagnostic accuracy was similar to baseline citrullinemia and also not significant. Citrullinemia80 revealed a high predictive capacity of a short bowel inferior or equal to 50 cm (auR.O.C. = 82.3%; 95%CI 61.7-102.8; p = 0.038). Conclusions: In short bowel syndrome context, citrullinemia stimulation test with oral L-glutamine is feasible and it may improve the predictive capacity of severity. Further investigation is required to determine its clinical relevance and applicability.

Keywords