Abstract

Background & aim: plasma amino acid levels may show differences in regard to physiological changes, diet and diseases. The aim of the study is to measure the amino acid levels in children with celiac disease and compare them with the controls. Material and methods: sixty-two children with classic celiac disease and 62 age and sex matched healthy control were enrolled in this study. Plasma amino acid levels of the children were measured by using tandem mass spectrometry. Results: celiac children had significant lower plasma levels of citrulline, glutamine and cystine than control (p<0.05). The alanine, asparagine, glutamic acid, hydroxyproline, isoleucine, leucine, phenylalanine, proline, serine, threonine and valine were significantly higher in celiac children than in controls (p<0.05). On the other hand there were no significant difference in levels of arginine, argininosuccinate, aspartic acid, glycine, homocysteine, hydroxylysine lysine, methionine, ornithine, tryptophan, tyrosine, histidine levels between celiac children and healthy controls (p>0.05). Conclusions: this study indicated that plasma amino acid levels can be variable in the celiac disease. Further studies with a large number size are needed whether plasma amino acids assays help to reflect of the intestinal mucosal damage and for following compatibility of gluten free diet in the celiac patients.

Keywords

Amino acids, Citrulline, Glutamine, Cystine, Celiac disease.