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Effect of L-glutamine on myenteric neuron and of the mucous of the ileum of diabetic rats
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Available in: http://www.redalyc.org/articulo.oa?id=32728660032

Abstract

The objective of this work was to investigate the effect of the L-glutamine supplementation to prevent diabetes induced changes in myenteric neurons and also to verify the effect on the mucosa of the ileum of Wistar rats. The animals were divided in five groups (n = 5): untreated normoglycaemic (UN), normoglycaemic treated with L-glutamine (NG), untreated diabetics (UD), diabetics treated with L-glutamine, starting on the 4th (DG4) or 45th day following diabetes induction (DG45). The amino acid was added to the diet at 1%. The density and size of neurons, the metaphasic index in the crypt, the height of the villus, the depth of the crypt and the number of goblet cells were determined. There was no difference in the neuronal density and in the cellular body area of the myosin-stained myenteric neurons of groups DG4 and DG45 when compared to group D. The metaphase index and the number of goblet cells showed no significant differences when all groups were compared (P > 0.05). The villi height of groups DG4 and DG45 were 45.5% (P < 0.05) and 32.4% (P > 0.05) higher than those in group UD, respectively. The analyzed crypts showed similar depth for all studied groups.

Keywords

Diabetes mellitus, L-glutamine, myenteric plexus, myosin-V, rats.