

CAFETERIA DIET DECREASED IGF1 UPTAKE IN BLOOD-BRAIN BARRIER

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The alimentary habits and the lifestyle of the current society, cause the sprouting of the obesity. IGF1 is a growth factor known for modulating the cerebral function positively. The objective of this work was to verify if the cafeteria diet modifies the brain uptake of IGF1, provokes insulin resistance and the putative mechanisms involved. Male Wistar rats of 2 months of age were treated with controlled diet (DC, n=20) and cafeteria diet (DF, n=20). After 45 and 90 days these animals were injected into carotid with IGF1h. IGF1h was detected in blood and cerebrospinal fluid. DF diminishes the uptake of IGF1h in both the groups ($p < 0,05$). To the 45 and 90 days of DF the rats presented an increase triacylglycerol (TAG) levels and fatty tissue ($p < 0,05$). Animals DF have shown intolerance to glucose after 90 days of diet ($p < 0,05$). TAG inhibits the uptake and transport of IGF1 in cultures of epithelial cells of plexus choroideus ($p < 0,05$). Moreover the TAG had not modified the expression neither the union of IGF1 to its receptor (western blotting) ($p < 0,05$). Our results show that DC diet increases factors related to the insulin resistance and diminishes the transport of IGF1 into the brain. Increase in serum TAG is probably involved in this inhibition.