



Effect of Monocrotaline on Blood-BrainBarrier Permeability in Rats

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SUMMARY. We studied if monocrotaline (MCT) portal hypertensive model modifies blood-brain barrier (BBB) condition. Male Wistar rats were used: Group MCT injected i.p. with MCT (60 mg/kg of body weight) and Group Sham (GS) with saline. Forty-four days after injection rats were sacrificed. Trypan blue and Evans blue tests were performed to evaluate BBB integrity in both groups. In cerebrospinal fluid (CF), protein and glucose were determined. Alanine aminotransferase (ALT), aspartate aminotransferase (AST), and alkaline phosphatase (AP) were measured in serum samples. Portal pressure rose after MCT injection. Trypan blue diffused into hippocampus, Evans blue increased concentrations in brain of Group MCT and CF showed an increase in protein and glucose content in Group MCT. Serum AST, ALT and AP activities were significantly increased in Group MCT rats. It is suggested that liver damage and vasoconstrictor substances could produce portal hypertension, associated to toxic effects on brain and modifying thereby the BBB permeability.

KEY WORDS: Blood-brain barrier, Liver damage, Monocrotaline, Portal hypertension.

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