ABSTRACT

Background: The aim of study is to investigate neuroprotective activity of Hesperetin

and Naringenin in reperfusion induced cerebral ischemia.

Methods: In the present study, male wistar albino rats weighing 200-250 gm were procured from authorized suppliers. They were anesthetized by giving thiopentone sodium (35 mg/kg) by i.p. surgical technique for the induction of cerebral ischemia were adopted from the earlier published method of Iwasaki et.al, 1989. Under anesthesia midline incision was given. Common carotid arteries was identified and isolated carefullyfrom vago-sympathetic nerve. Rats were made ischemic by occluding bicommon carotidarteries (BCCA) with silk thread for 30 min, followed by reperfusion for 4 h by removing the occlusion. Body temperature was maintained, then the drug Hesperetin (20 mg/kg, 30mg/mg) and Naringenin (30 mg/kg, 50 mg/kg) were administered at the end of the occlusion period i.e 28th min and before the beginning of reperfusion. Then after four hour reperfusion, animal was sacrificed and immediately brain was isolated and homogenized, centrifuged and PMS was collected, then various enzyme estimations were done. Histopathology studies were also performed at the end.

Results: Hesperetin and Naringenin showed significant neuroprotective effect by decreasing degree of free radical formation and levels of biochemical stress markers and histopathological changes came to nearer normal compare to I/R CONTROL group.

Conclusion: Hesperetin and Naringenin were shown neuroprotective property.

Keywords: Reperfusion cerebral ischemia, Hesperetin, Naringenin, Oxidative stress.