Spinal cord ischemia reperfusion injury

A total of 180 patients who underwent a surgical procedure and that received normal saline intraperitoneally immediately after the patients' aortic occlusions were investigated. Patients were divided in three groups. Experimental conditions and programs were designed for various approaches.

Thirty min after the onset of ischemia, Fan et al., found a decrease in the local blood flow in the lumbar spinal cord, almost -77.48% of the baseline, which was reversed partially by initial reperfusion, even exceeding the baseline level. However, 1 hour after reperfusion, the blood flow was again decreased to the level below the baseline, followed by a decline to 207.13% ± 38.25 PU for 3 h without any recovery. Attenuating this secondary damage with neuroprotective strategies requires an understanding of these pathophysiologic processes.

Fan et al., showed the pathological mechanism changes during reperfusion injury and reperfusion time correlation and compliance, and analyzed some of the important pathophysiologic processes involved in secondary damage after spinal cord injury [1)].

A study of the Medova Hospital, Necmettin Erbakan University in Konya, showed significant neuroprotective effects of tocilizumab on rabbit spinal cord ischemia reperfusion injury [2)].

1)
Fan YD, Zhu ML, Geng D, Zhou K, Du GJ, Wang ZL. The study on pathological mechanism and solution method for spinal cord ischemia reperfusion injury. Eur Rev Med Pharmacol Sci. 2018 Jul;22(13):4063-4068. doi: 10.26355/eurrev_201807_15394. PubMed PMID: 30024591.

2)
Karatas Y, Erdi MF, Kaya B, Keskin F, Cüce G, Kılınc I, Uyar M, Izci EK, Kalkan E. Neuroprotective effects of tocilizumab on experimentally induced spinal cord ischemia-reperfusion injury. World Neurosurg. 2018 Dec 26. pii: S1878-8750(18)32892-4. doi: 10.1016/j.wneu.2018.12.069. [Epub ahead of print] PubMed PMID: 30593966.