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**Direct intraperitoneal resuscitation with lidocaine, methylene blue and pentoxiphylline combination does not decreases inflammation after intestinal ischemia-reperfusion injury in rats**

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**Title:** Direct intraperitoneal resuscitation with lidocaine, methylene blue and pentoxiphylline combination does not decrease inflammation after intestinal ischemia-reperfusion injury in rats

**Keywords:** Ischemia, Reperfusion, Oxidative metabolism

**Background:** Ischemic and reperfusion (I/R) injuries are recognized after stroke, myocardial infarction, transplant, trauma and intestinal strangulation. IR tissue damage mechanism is not completely understood, but it was suggested that the oxidative stress leads to inflammatory mediators release, leukocytes activation, apoptosis and necrosis. Previous studies tried to decrease IR tissue damage using many drugs and substances. The aim of the study was to evaluate the effects of an intraperitoneal solution of methylene blue, lidocaine and pentoxiphylline on intestinal I/R injury.

**Material and Methods:** Superior mesenteric artery was isolated and clamped in 36 adult male Sprague Dawley rats. After 60 minutes, clamp was removed and a group received intraperitoneally UNITO solution (PTX 25mg/kg + lidocaine 5mg/kg + MB 2mg/kg), while the other group was treated with warm 0.9% NaCl solution. Rats were euthanized 45 min after drug administration. Lung and bowel were collected for histological evaluation (using Park's score) and determination of MPO and MDA levels.

**Results:** Control samples showed lymphoplasmocytic infiltrate and crypt necrosis of villi. MPO and MDA measurements shown no differences between treated and control groups.

**Conclusion:** the combination of lidocaine, methylene blue and pentoxiphylline administered intraperitoneally at the studied dose, did not decrease histological lesion scores and biochemical markers levels in intestinal ischemia/reperfusion injury.