

Investigation of Ezetimibe Administration on Cell Survival Markers in Kidney Ischemia

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Abstract : Introduction: One of the major clinical issues is acute renal failure, which is caused by ischemia-reperfusion of the kidney and is associated with high mortality. Despite advances in this area, important issues such as tissue necrosis, cell apoptosis, and so on in damaged tissue are suggestive for more researches and study on this subject. Objective: Evaluation of the potential utility of Ezetimibe in reducing injuries and cell death induced by kidney ischemia/ reperfusion through inducing expression changes of different cellular pathways in adult Sprague-Dawley rats. Materials and methods: Forty rats weighing 180-200g were divided into 4 groups. For this purpose, the first right kidneys of the rats were removed during surgery. After 20 days, the left renal artery was closed with a soft clamp and reperfusion was performed. After 24 hours, blood samples were collected and sent to the laboratory with kidneys to measure bax and bcl-2 by Western blotting and histopathological tests. Results: Quantitative damage reviews of Kidney tissue indicates damage Acute and severe tubular lesions were observed in the ischemia group. Also, the amount of injury was significantly reduced in the treatment group. There was also a significant difference between the ischemia and sham groups. In general, the results show that a single dose of 1.2 mg/kg of ezetimibe can reduce the bax/ bcl-2 ratio compared to the ischemia group. In general, the results showed Ezetimibe is effective in reducing cell damage and death due to ischemia/ reperfusion after renal ischemia through changes in the expression of various cellular pathways in rats.

Keywords : acute renal failure, renal ischemia-reperfusion injury, ezetimibe, apoptosis

Conference Title : ICCPPT 2021 : International Conference on Clinical Pharmacology and Pharmaceuticals Testing

Conference Location : Paris, France

Conference Dates : August 26-27, 2021