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Poster Sessions

Effects of agmatine and pirfenidone on renal fibrosis after acute kidney injury

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The number of patients in which acute kidney injury (AKI) transfers to chronic kidney disease (CKD) has been increasing. Glomerulosclerosis and tubulointerstitial fibrosis are observed in patients suffering from end stage renal disease. There is no specific medicine for these kidney diseases. Main treatments for these kidney diseases are a symptomatic treatment, dialysis, and a renal transplantation. Therefore, we aimed to establish a mouse model of renal fibrosis after ischemic AKI. We also examined effects of agmatine and pirfenidone on renal fibrosis after ischemic AKI in mice. Male mice were anesthetized, and non-traumatic vascular clamps were applied to bilateral renal pedicles simultaneously. Blood was collected 24 hours and 4 weeks after ischemia reperfusion (IR) for measurement of renal function parameters. The kidneys were collected 4 weeks after IR for measurement of hydroxyproline and histopathological examination. Agmatine was administered intravenously 5 min before ischemia. Pirfenidone mixed in feed was administered for 5 weeks from 1 week before ischemia. In the ischemic AKI model, blood urea nitrogen and plasma creatinine were increased 1 day after IR, compared with sham mice, and renal fibrosis and an increase in hydroxyproline were noted 4 weeks after IR. Effects of agmatine and pirfenidone are under analysis.