# AB204. Research on adenosine signal in renal fibrosis originated from unilateral ureteral obstruction

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**Objective**: Ischemia and hypoxia are the important cause of chronic kidney disease. Adenosine is an important signaling molecule resulted from ischemia and hypoxia and may function as a main pathogenic factor to CKD. The present study detected the fluctuation of renal adenosine and its relative factor-induced fibrosis expression after the unilateral ureteral obstruction (UUO) procedure. To explore the role of adenosine pathway in renal fibrosis and mechanism of the pathogenesis of chronic kidney.

**Methods:** A total of 32 male SD rats were randomly enrolled into two groups: sham-operated group and UUO group. Each group was also randomly divided into 1, 2, 3,4 group in term of the week after surgery (n=4) and killed in the same time point, Prior to sacrifice blood, kidney samples taken after death. In obstructed kidney, histological changes and the deposition of renal interstitial collagen were observed by HE stain and Masson stain, adenosine was separated and using reverse-phase HPLC, blood creatinine level was measured using spectrophotometric kits in accordance with the manufacturer's instructions, the mRNA of TGF-β1 and procollagen I were measured by real time PCR and its protein was examined by immunohistochemical method. The results of immunohistochemical were analyzed semi-quantitatively with the pathological image analysis system.

**Results:** (I) After the UUO procedure, Adenosine concentration in the UUO group was significantly higher compared to the Sham group ($P<0.05$), and reached a peak after the 1 week of the experiment ($P<0.01$), H&E and Masson staining exhibited renal damage, accompanied by increased ($P<0.05$) adenosine concentration, Nephron damage gradually increased, increasing the deposition of renal interstitial collagen; (II) we failed to observe a significantly increased creatinine in UUO groups during four time points ($P>0.05$). Immunohistochemical analysis showed that in the second week after UUO, its highest expression in renal tubular epithelial cells, and then over time, the expression decreased gradually, and with the extension of UUO time, TGF-β1 in renal tubular epithelial cells from the distribution transfer to renal interstitial, and then spread to the glomeruli; (III) the PCR data and immunohistochemical analysis showed that UUO procedure significantly increased ($P<0.05$) TGF-β1 and procollagen I expression during four weeks.

**Conclusions:** (I) Renal interstitial fibrosis continued presence of renal tissue hypoxia and lead to elevated adenosine levels within the organization; (II) the increased adenosine profile accelerated the renal tubular injury and the occurrence and development of interstitial fibrosis; (III) the adenosine signaling pathway can mediate the development of RIF by regulating the expression of the mRNA of TGF-β1, α1 (I) procollagen.

**Keywords:** Unilateral ureteral obstruction (UUO); TGF-β1; α1 (I) procollagen; renal adenosine; creatinine

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# AB205. Clinical analysis of the characterization of magnetic resonance imaging and endoscopic therapy in refractory hematospermia

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**Objectives:** To assess the etiological diagnostic value of

 