**Renal ischemia/reperfusion decreases the expression of DPP-4**

Type 4 dipeptidyl-peptidase 4 (DPP-4) is a serine protease expressed at the surface of most epithelia, including renal proximal tubules (PT). Since DPP-4 participates to inflammation, recruitment of immune cells and apoptosis, we investigated its expression and distribution in case of renal ischemia/reperfusion (I/R). Transient I/R is unavoidable at the time of kidney transplantation, and its severity conditions graft function and survival at both short and long terms.

Renal ischemia was induced in Wistars rats by unilaterally clamping the left kidney for 60 minutes. The right kidney was simultaneously excised and used as comparator. First group (n=6) had no reperfusion (NR) and the kidney was removed straight after the hour of ischemia. For the other group, renal reperfusion was allowed for 6 (n=6), 24 (n=6) or 48 (n=6) hours. Kidneys were snap-frozen and lysed for mRNA and protein extraction. In parallel, the expression and distribution of DPP-4 was studied by immunohistochemistry on 10 biopsies of human kidneys with non-toxic acute tubular necrosis (ATN).

In rat kidneys, mRNA abundance of DPP-4 was significantly decreased following I/R in all group: NR (2,07-fold), 6h (8,12-fold), 24h (12.5-fold) and 48h (12.9-fold). Immunoblotting analyses showed a 1.2-fold reduction of DPP-4 expression in the NR group, a 2.14-fold in the 6H group and a 2.3-fold at both 24h and 48h *post* reperfusion (Fig.1). In human kidneys with ATN, the abundance of DPP-4 appeared reduced in comparison to healthy controls. Still, we did not observe evidence of DPP-4 internalization into PT cells.

In conclusion, renal I/R is associated with reduced expression of DPP-4 in rat and human kidneys, which may be caused by PT tubulorrhexis and/or DPP-4 shedding into the urine.

*Fig.1: Reduction of DPP-4 mRNA level in each IR group.*