

## Decreased Expression of NHE3, NBC1, Na,K-ATPase, AQP1 and OATs in Gentamicin-Induced Nephropathy

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### Decreased Expression of NHE3, NBC1, Na,K-ATPase, AQP1 and OATs in Gentamicin-Induced Nephropathy

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**Purpose :** Gentamicin (GM)- induced nephrotoxicity may represent Fanconi syndrome. The present study was aimed to determine whether there is an altered regulation of proximal tubule transporters in the kidney of GM-treated rats.

**Methods :** Male Sprague- Dawley rats (200- 250 g) were subcutaneously injected with GM (100 mg/kg per day) for 7 days. The expression of proximal tubule transporters was determined by Western blot analysis and immunohistochemistry. The mRNA expression of organic anion transporters (OATs) was determined by RT- PCR.

**Results :** The protein expression of Na<sup>+</sup>/K<sup>+</sup>- ATPase, type 1 Na<sup>+</sup>/HCO<sub>3</sub><sup>-</sup> cotransporter (NBC1), type 3 Na<sup>+</sup>/H<sup>+</sup> exchanger (NHE3) and OAT1 was decreased in the renal cortex/outer stripe of outer medulla in GM- treated rats compared with those in the control. The mRNA expression of OAT1 and OAT3 was decreased in the kidney. Immunoperoxidase labeling confirmed the altered expression of Na<sup>+</sup>/K<sup>+</sup>- ATPase, NBC1, NHE3 and OAT1 in the proximal tubule in GM treated rats.

**Conclusion :** GM- induced nephropathy may be related with decreased renal expression of Na<sup>+</sup>/K<sup>+</sup>- ATPase, NBC1, NHE3 and OATs.

**Key Words :** Gentamicin, Organic anion transp