

## #1998 - The Attenuative Effects of Oral Resveratrol on Renal Changes Induced by Vanadium Injection in Rats

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**Objective(s):** The present study was carried out to investigate the protective effects of oral consumption of resveratrol on vanadium induced renal injuries in male Wistar rats.

**Materials and Methods:** Animals received either Ammonium metavanadate (AMV, 5mg/kg/day, i.p, 14 consecutive days) or resveratrol solution (10mg/kg and 50mg/kg, gastric gavage) along with AMV treatment. The final group received resveratrol alone (50mg/kg, gastric gavage) for 4 weeks.

**Results:** AMV injection caused progressive tubular damages resembling acute tubular necrosis. Microscopic views revealed tubular attenuation and blebbing. In addition, progressive peritubular congestion of the capillaries was observed while no evidence of renal fibrosis was present in trichrome staining. Further, levels of the renal transforming growth factor  $\beta_1$  (TGF- $\beta_1$ ) as an index of fibrosis had no difference in treated animals as compared with the control ( $13.4 \pm 1.2$  versus  $11.24 \pm 0.93$  pg/mg protein) at the p

**Conclusion:** It is evident that AMV injection had no ability to induce renal fibrosis in rats while it induces renal destructive lesions based on pathological results and enzyme levels. Moreover, our preliminary results suggest that resveratrol in high dose (50mg/kg) could confer a moderate protective role against AMV induced renal tubular necrosis in rats.

**Keywords:** Ammonium metavanadate; Resveratrol; Tubular necrosis; Transforming growth factor  $\beta_1$ ; Superoxide dismutase

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References

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