

Implications of oxidative stress in the pathophysiology of obstructive uropathy

Zecher, Martín

Guichard, Cristián

Velásquez, María José

Figueroa, Gabriel

Rodrigo, Ramón

Although the functional and clinical alterations occurring in patients with obstructive uropathy are not well understood, it has been suggested that oxidative stress could contribute in the mechanism responsible for the impairment of sodium and water balance. This study aimed to test the hypothesis that red wine administration causes an amelioration of both the renal damage and impairment of renal Na⁺, K⁺-ATPase activity occurring after ureteral obstruction in the rat. Twenty-four male Wistar adult rats weighting 200-250 g were used. Half of them received a 10-week treatment with wine as the sole fluid source, while the other group received water. Both groups were subjected to 24-h unilateral ureteral obstruction (UUO). Kidney tissue was collected following the relief of the ligature to perform the biochemical assessments. Urine and blood samples were taken at baseline and after the relief. Results show that the treatment with red wine significantly enhances the activity of antioxidant