

## **Modulatory and regenerative potential of transplanted bone marrow derived mesenchymal stem cells on rifampicin-induced kidney toxicity**

### **ABSTRACT**

Anti-tuberculosis agent rifampicin is extensively used for its effectiveness. Possible complications of tuberculosis and prolonged rifampicin treatment include kidney damage; these conditions can lead to reduced efficiency of the affected kidney and consequently to other diseases. Bone marrow-derived mesenchymal stem cells (BMMSCs) can be used in conjunction with rifampicin to avert kidney damage; because of its regenerative and differentiating potentials into kidney cells. This research was designed to assess the modulatory and regenerative potentials of MSCs in averting kidney damage due to rifampicin-induced kidney toxicity in Wistar rats and their progenies. BMMSCs used in this research were characterized according to the guidelines of International Society for Cellular Therapy.

**Keyword:** Stem cell therapy; Mesenchymal stem cells; Rifampicin; Tuberculosis; Histopathology; Kidney.