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## Effects of transplantation of bone marrow mononuclear cells in renal injury induced by unilateral urethral obstruction in balb/c mice

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Chronic kidney disease (CKD) is a general term for heterogeneous disorders affecting kidney normal structure and functioning. Kidney fibrogenesis is triggered upon chronic kidney damage and up to now, as there is no available treatment for severe fibrosis, the only therapeutic option is kidney transplantation.CKD affects around 7.2% of the adult population in Brazil and in the last few years the number of dialysis patients was increased by 75%. In the present study it was aimed to evaluate the effects of cell therapy on kidney fibrosis induced by unilateral urethral obstruction in BALB/c mice. Mice mononuclear cells isolated from bone marrow and subsequently infused into the subcapsular region of mice with kidney injury due to unilateral urethral obstruction. After 24h and, 3 and 5 days of the infusion the kidneys were harvested and analyzed. Immunohistochemistry revealed lower interstitial damage and enhanced cell proliferation in treated groups as compared to untreated animals. Growth factors HGF, VEGF and KGF TGF $\beta$  were up-regulated, as shown by mRNA levels, in cell infusion-treated animals as compared to the PBS-treated group. Taken together the results provide evidences that both inflammatory responses and fibrogenesis are attenuated in animals that received an infusion of bone marrow mononuclear cells (BMMCs). This study demonstrates that therapy using BMMCs may represent a novel treatment for CKD and thus an alternative way to inhibit the development of kidney fibrosis in initial stage of renal injury.

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