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자가중간엽줄기세포 치료 후 급격히 신기능이 악화된 1례

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Rapid Deterioration of Preexisting Renal Insufficiency after Autologous Mesenchymal Stem Cell Therapy

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Autologous mesenchymal stem cell (MSC) administration has been shown to improve renal function and histological findings in acute kidney injury (AKI) models. However, it is unclear whether MSC contributes to the regression of renal fibrosis and regeneration of nephrons in chronic kidney disease (CKD), particularly in a clinical setting. Moreover, the efficacy of the homing mechanism and the safety of transdifferentiation of MSCs in CKD patients have not been established. Here, we report our experience with a CKD patient with focal segmental glomerular sclerosis who was treated by intravenous infusion of autologous MSCs derived from adipose tissue in an unknown clinic outside of Korea. The renal function of the patient had been stable for several years before MSC administration. One week after the autologous MSC infusion, the preexisting renal insufficiency was rapidly aggravated without any other evidence of AKI. Two months later, eGFR was markedly reduced, from 16 to 7.3 ml/min/1.73m^2. Hemodialysis was started 3 months after MSC administration. Renal biopsy findings at the time of dialysis showed severe interstitial fibrosis and inflammatory cell infiltration, with a few cells expressing CD34 and CD117, surface markers of stem cells. This case highlights the potential nephrotoxicity of autologous MSC therapy in CKD patients, despite several recent positive reports about the efficacy of MSC therapy in experimental CKD models.

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Mesenchymal stem cell therapy, Autologous transplantation