

## Memory Types in Hemodialysis (HD) Patients; A Study Based on Hemodialysis Duration, Zahedan: South East of Iran

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**Abstract :** Hemodialysis (HD) patients are at a high risk of atherosclerotic and vascular disease; also little information is available for the HD impact on brain structure of these patients. We studied the brain abnormalities in HD patients. The aim of this study was to investigate the effect of long term HD on brain structure of HD patients. Non-contrast MRI was used to evaluate imaging findings. Our study included 80 HD patients of whom 39 had less than six months of HD and 41 patients had a history of HD more than six months. The population had a mean age of 51.60 years old and 27.5% were female. According to study, HD patients who have been hemodialyzed for a long time (median time of HD was up to 4 years) had small vessel ischemia than the HD patients who underwent HD for a shorter term, which the median time was 3 to 5 months. Most of the small vessel ischemia was located in pre-ventricular, subcortical and white matter ( $1.33 \pm .471$ ,  $1.23 \pm .420$  and  $1.39 \pm .490$ ). However, the other brain damages like: central pons abnormality, global brain atrophy, thinning of corpus callosum and frontal lobe atrophy were found ( $P < 0.01$ ). The present study demonstrated that HD patients who were under HD for a longer time had small vessel ischemia and we conclude that this small vessel ischemia might be a causative mechanism of brain atrophy in chronic hemodialysis patients. However, additional researches are needed in this area.

**Keywords :** Hemodialysis Patients, Duration of Hemodialysis, MRI, Zahedan

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