Transcranial sonography in Wilson's disease patients

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Wilson's disease (WD) is an autosomal recessive inherited disorder of copper metabolism with hepatic and neurological symptoms. Transcranial sonography (TCS) may be useful as a simple and safe technique in many neurodegenerative diseases. The aim of this study was to asses basal ganglia changes in WD patients with TCS in two years observation period. Methods: Patients with new diagnosis of WD without previous treatment entered the study. TCS was performed through the preauricular acoustic bone window with a 2.5-MHz phased-array transducer. SN echogenic sizes ≥0.25 cm^2 were classified as hyperechogenic for the used ultrasound system. The area of hyperechogenicity in the lenticular nucleus (LN) was measured by encircling the outer circumference of the hyperechogenic area. Results: 21 neurological and 20 hepatic patients entered the study. Baseline SN hyperechogenicity was found in 9 neurological and 4 hepatic patients. 24 months SN hyperechogenicity was found in 1 neurological and 3 hepatic patients. There was no correlation between baseline and 24 months SN echogenicity neurological examination. Baseline LN did not reveal hyperechogenic changes in 2 neurological and 5 hepatic cases. 1 patient in neurological group and 3 patients in hepatic group did not have LN changes on 24 months TCS. Conclusions: SN hyperechogenicity wasn't observed in all WD patients and is more often seen in neurological group. LN echogenicity is observed in most WD patients and number of patients with LN changes had risen over the time. Basal ganglia changes observed in WD patients are time dependent probably due to drugs therapeutic effect.