

Seizure. 2018 Aug;60:57-60.

Biochemical derangements related to metabolic syndrome in epileptic patients on treatment with valproic acid.

Nisha Y<sup>1</sup>, Bobby Z<sup>2</sup>, Wadwekar V<sup>3</sup>.

Evaluation of biochemical derangements related to metabolic syndrome in epileptic patients on treatment with Valproic acid. This study consisted of two groups of 42 patients. Group I - Newly diagnosed patients with epileptic seizures untreated with any Anti-epileptic drugs (AEDs). Group II - Patients on treatment with Valproic acid for more than one year. Age and gender matched patients of 18-40 years were recruited. Patients who were diabetic, hypertensive, smokers, alcoholics, with persistent infection, head injuries, pregnancy and lactation were excluded from the study. Biochemical parameters, fasting blood glucose, lipid profile, Malondialdehyde (MDA), Total Antioxidant Status (TAS), MDA/TAS ratio, leptin, adiponectin, fasting insulin, high sensitive c-reactive protein (hsCRP), Homeostatic model assessment of insulin resistance (HOMA-IR) and leptin/adiponectin ratio were estimated. There was a decrease in Total cholesterol and Low Density Lipoprotein- cholesterol levels among the VPA-treated epileptic patients in comparison to newly diagnosed patients. BMI did not differ between the untreated and treated patients. There were no significant difference in the levels of hsCRP, leptin and TAS between the newly diagnosed and VPA-treated patients. Increased insulin as well as HOMA-IR levels and decreased adiponectin levels were found in VPA treated subjects when compared to the newly diagnosed patients. Oxidative stress parameters (MDA, MDA/TAS ratio) were elevated in VPA treated subjects when compared to newly diagnosed patients. VPA treatment increased the risk factors for the development of metabolic syndrome such as hyperinsulinemia, insulin resistance and oxidative stress. However VPA treatment corrected the dyslipidemia of epileptic patients.