Research Paper (3)

Quantitative D-dimer level and anticoagulant therapy in idiopathic intracranial hypertension

The Egyptian Journal of Neurology, Psychiatry and Neurosurgery. September 2019; 55:62

Abstract

Background: Idiopathic intracranial hypertension (IIH) is a syndrome characterized by elevated intracranial pressure (ICP) of unknown etiology.

Aim of the work: The aim of this research is to study the quantitative D-dimer level and the role of anticoagulant therapy in absence of occlusive sinus thrombosis in patients with IIH.

Methodology: Twenty-four patients with IIH according to the modified Dandy criteria were enrolled. Headache impact test (HIT6), ophthalmological assessment including Frisen classification for papilledema, visual acuity, visual field, and visual evoked potentials were performed to the patients. Serum quantitative D-dimer level was measured using the enzyme-linked immunosorbent assay (ELISA) technique for the patients and for 24 healthy matched controls. Patients were divided into two groups: group (1) received acetazolamide and low molecular weight heparin (LMWH) in a prophylactic dose for 2 weeks while group (2) received acetazolamide only. Both groups continued on acetazolamide for 6 months. We followed the patients after 1 and 6 months later through the HIT6 test and the ophthalmological assessment.

Results: D-dimer level was statistically higher among the cases compared to the controls. Also, a statistically significant improvement was recorded in the ophthalmological assessment after 6 months among both groups; more evident in group (1).

Conclusion: The elevated D-dimer level and the visual improvement in IIH patients receiving LMWH added to acetazolamide suggest the presence of an underlying unrecognized non-occlusive venous cerebral microthrombi impeding the cerebrospinal fluid (CSF) drainage.

Trial registration: ClinicalTrials,gov on 22/5/2019, NCT03963336.

Keywords: Idiopathic intracranial hypertension, D-dimer, Microthrombi, Anticoagulant therapy