Late ophthalmological assessment of patients with subarachnoid hemorrhage and clipping of cerebral aneurysm

Iwona Obuchowska · Grzegorz Turek · Zenon Mariak · Jan Kochanowiec · Zofia Mariak

Received: 21 February 2011 / Accepted: 2 September 2011 © Springer-Verlag 2011

Abstract

Purpose To estimate prospectively late ocular manifestations in patients after aneurysmal subarachnoid hemorrhage (SAH) treated with aneurysm clipping.

Methods Forty-six patients (12 men and 34 women), 23–69 years of age, were included in this study. A conventional ophthalmological examination, visual evoked potentials (VEPs), and static perimetry were performed on all patients. The mean interval between the onset of SAH and the aforementioned examination was 1.9±1.3 years (range 0.5–5 years). The following were compared between patients with affected and non-affected visual fields as well as between those with normal and abnormal VEPs: sex, age, time from SAH to surgery, Hunt and Hess scale, Glasgow Coma Scale, Glasgow Outcome Scale, grading of SAH according to the Fisher scale, and the size and site of aneurysm.

Results Visual field defects were found in 23 patients (50%). In all of these patients, both eyes were affected. The most frequent type of visual field defects were: constricted field (47.8%), multiple peripheral foci (26.1%), and superior field defect (17.4%). There was no significant relationship between the analyzed factors and the occurrence of visual field defects, although statistical significance was almost observed in respect to the Fisher scale (p=0.055).

Introduction

Data pertaining to the late ophthalmologic outcomes of aneurysmal subarachnoid hemorrhage (SAH) treated surgically are very scarce. This is in contrast to the amount of data pertaining to early ophthalmologic sequelae of intracranial aneurysmal rupture. In 1881, Moritz Litten described retinal, preretinal, and vitreous bleedings associated with SAH [10]. A number of subsequent studies have shown that most of these effusions clear within months of onset, except massive bleedings to the vitreous body, known as Terson’s syndrome [1, 2, 4, 12–14, 20]. This condition often necessitates that the ophthalmologist must have an active approach to treatment (e.g., extraction with vitrectomy). As such, there is plenty of literature pertaining to the late follow-up of patients with Terson syndrome, although this literature pertains to one of...