

haematoma on periocular structures, thus favouring the flow of blood through the optic nerve sheath across the subarachnoid space.^{4,5} Another theory suggests that TS could be associated with increased intracranial pressure (ICP) secondary to SAH. Venous hypertension caused by ICP might cause rupture of retinal veins, thereby giving rise to ocular haematoma.⁶ If this theory was right, poor prognosis in these patients would have more to do with ICP than with intraocular haemorrhage, and TS would be considered an epiphenomenon.

Lastly, we would like to highlight the utility of orbital Doppler sonography in TS diagnosis,^{6,7} since this is a simple, fast, and noninvasive technique available to neurologists. This test not only enables diagnosis of TS but also can be used to identify the exact nature of the type of haemorrhage and any potential complications such as retinal detachment, which are therapeutically relevant points.⁶

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Reply to "Terson syndrome and ocular ultrasound"[☆]

Respuesta a «Síndrome de Terson y ecografía orbitaria»

Dear Editor:

It was with great interest that we read 'Terson syndrome and ocular ultrasound', which appears to be a very interesting and instructive letter.

We agree with the authors that Terson syndrome is an underestimated and underdiagnosed disorder. Action protocols between departments should be created to ensure appropriate treatment and follow-up for these patients.

We also agree that ocular ultrasound is an important diagnostic tool in cases of retinal haemorrhage. However, the most important diagnostic tool in these cases is examination of the fundus with an opthalmoscope, a simple and inexpensive technique that yields unambiguous results.

That being said, we adhere to the opinion expressed in the original article¹ regarding the severity of the haemorrhage and the presence of Terson syndrome.

In our hospital, we systematically examine the fundus of the eye of all the patients who present cerebral haemorrhage, according to a series of protocols established together with the ICU and the anaesthesiology departments, where patients are initially treated.

We have spent 2 years adding data to a database so as to establish whether there is a significant relationship between haemorrhage severity and presence of retinal haemorrhage in this patient group.

At this time, we can cautiously state that we have established a significant relationship between the severity of the patient's condition and presence of a haemorrhage in the fundus of the eye.

One of our preliminary conclusions is that haemorrhage was more severe when Terson syndrome was also present, in most of the patients we have studied.

Doctors may find atypical cases that do not follow this paradigm, as we mentioned in the original article. However, these cases make up a small minority and they are not significant.

In any case, additional articles confirm the relationship between haemorrhage severity and presence of retinal haemorrhage. For example, Frizell et al.² corroborated the results of earlier studies indicating that presence of Terson syndrome is related to subarachnoid haemorrhage severity. Pfausler et al.³ observed high mortality rates (90%) among patients with this syndrome.

Subarachnoid haemorrhages are the most frequent cause of sudden death due to cerebrovascular accident and a

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high percentage of patients with this haemorrhage die before receiving treatment. Symptoms vary in intensity, display different manifestations, and depend on several factors.

Based on the above, we believe it is necessary to create Terson syndrome screening protocols in conjunction with the ICU and anaesthesiology departments since that syndrome is very likely indicative of haemorrhage severity.

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