Commentary

Cerebral venous thrombosis (CVT) is a rare type of cerebrovascular disease that accounts for almost 0.5–3% of all stroke;[1] however, the widespread use of neuroimaging and a greater awareness have been raising its incidence since the past 20–25 years. A better knowledge of this disease is, therefore, necessary in order to recognize a phenomenon that still represents a significant diagnostic and therapeutic challenge.

In this issue Hipólito *et al*. describe a new series of CVT patients from Algarve that sets up a clinico-epidemiological profile that could update the understanding of this condition.[2]

As it is described, the mean age of presentation was 37.4 years and females the most frequently affected (74%), similarly to previous references, which restate its association to pregnancy or puerperium and the use of oral contraceptives.[3] In such manner, CVT usually presents with a wide variety of manifestations that make diagnosis difficult. The most common symptoms and signs are headache, nausea or vomiting, seizures, altered mental status and focal neurological deficits, referred in up to 50% of cases as a sub-acute fashion (between 48 h and 30 days). The unspecificity of symptoms and the absence of screening laboratory tests could partially justify the delay in diagnosis that has been shown in this and another series and that, even so, it is being improved because of the development and the wide availability of magnetic resonance venography and computed tomography-scan venography. Therefore, a first question is raised: Will be possible in the future finding any test that help us to make an earlier diagnosis?

Regarding the treatment, apart from the usual measures for managing intracranial hypertension, anticoagulants are the cornerstone of medications. Its use is based on driving the causal thrombotic course back, and on preventing other problems such as pulmonary embolism. Despite of the guidelines[4] which admit heparin therapy even with concomitant intracranial hemorrhage, their administration, however, remains presently controverted since, in close to 40% of CVT cases with a venous infarct there is a hemorrhagic factor that could be vulnerable to increase with this sort of treatment. In the article by Hipólito *et al*. We can appreciate the evolution through the years in the type of heparin used in the early treatment of CVT. From a more frequently usage of unfractionated heparin in the past decades, we assist to an increasing handling of low molecular weight heparin because it provides more steady anticoagulation and does not require dosage adjustment based on coagulation times. After heparins, oral anticoagulation should be started although in this regard again some questions raise like the duration that anticoagulation should be maintained and the role that new selective oral anticoagulants could play since in their respective clinical trials a lower percentage of intracranial hemorrhage has been shown by these agents that could be useful in terms of efficacy and security.

Other different therapies like endovascular treatment or decompressive hemicraniectomy have currently insufficient evidence to extend its use. Like in the series shown in this issue, the application of these therapies is anecdotal which reflects how little are held in daily practice and how necessary would be to have more information through prospective registries and when suitable, randomized controlled trials.

To conclude, and relating to outcome and prognosis, with the introduction of neuroimaging and possibly connected with the age of presentation, the mortality rates have become minimal, 1 of 31 in the present series, though ranging between 6% and 27% in elderly patients.[5] In addition, we have to be able to improve even more the functional status of patients alive, for which, a new line of investigation should be open intending to find out predictors of a worse prognostic in these patients.

Definitely, lots of questions with little answers.

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