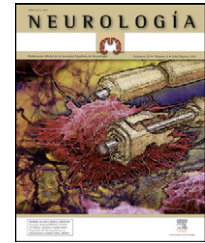




# NEUROLOGÍA

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## LETTERS TO THE EDITOR

### Tratamiento mínimamente invasivo del hematoma subdural crónico del adulto. Resultados en 116 pacientes<sup>☆</sup>

#### Minimally invasive treatment of chronic subdural haematoma in the adult: Results in 116 patients

Dear Editor:

It was with great interest that we read the article by Latini et al.<sup>1</sup> which was recently published in *NEUROLOGÍA* under the title "Minimally invasive treatment of chronic subdural haematoma in the adult: results in 116 patients". Based on our experience treating these haematomas in daily practice, we would like to make a few comments.<sup>2</sup>

First of all, we were surprised by the inclusion criteria used to define chronic subdural haematoma (CSDH) as seen using computed tomography (CT). The authors described CSDH as "convex, hypodense, crescent-shaped images adjacent to brain parenchyma". Although this image is typical of CSDH, we must not lose sight of the fact that it may present other morphologies and densities depending on its progression timeline.<sup>3</sup> According to our experience, 22.3% of CSDH cases were not hypodense and appeared as isodense, hyperdense, or mixed-density haematomas.<sup>4</sup>

Secondly, we do not clearly understand which technique was used. We suppose that when the authors refer to trans-marrow puncture, they mean the twist-drill technique, that is, craniostomy performed with a fine drill bit (4–6 mm), which is fully documented in the literature.<sup>5,6</sup> What is the purpose of measuring intracranial pressure in these patients?

Thirdly, the authors examined 127 patients and only used their trans-marrow puncture technique in 116 patients. It therefore does not make sense to provide that number and then mention a patient total of 127 in the results/discussion sections, which list 11 patients treated with other techniques. The mortality of the technique cannot be given as 6 cases (4.7%), since this figure also includes one or more patients treated with other techniques.

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The authors state that the failure rate of the technique is 17%, but this figure is incorrect. They indicate that trans-marrow puncture was the initial treatment for 116 patients, and that the haematoma only resolved after the first attempt in 57 patients (49%). If 39 patients required a second TMP procedure, and another 20 required additional different procedures, the failure rate of the technique due to haematoma recurrence, as described in the literature, would therefore be 51%. We feel that this figure raises doubts about the technique.

Lastly, we agree with the authors that a large-scale prospective randomised study is needed in order to determine the best treatment for CSDH. While such a study is still lacking, the overwhelming consensus of the literature is that ideal treatment for CSDH consists of one or two burr holes (employing local anaesthesia, whenever possible) and implantation of a subdural drain; this step may or may not be preceded by saline irrigation of the subdural space.<sup>7,8</sup>

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## Minimally invasive treatment of chronic subdural haematoma in adults. Results in 116 patients. Response by the authors<sup>☆</sup>

### Tratamiento mínimamente invasivo del hematoma subdural crónico del adulto. Resultados en 116 pacientes. Respuesta de los autores

*Dear Editor:*

After reading our colleagues' Letter to the Editor, we would like to make some necessary clarifications.

We are well aware that a chronic subdural haematoma may be defined by its progression timeline, and that a certain percentage of cases may present mixed or isodense images. However, our study only included patients whose imaging studies showed typical signs of subdural (hypodense) or multiloculated haematomas. This is because the aspiration technique can only be used if the process of fibrinolysis has already taken place in the haematoma, and blood clots have therefore been liquefied.<sup>1</sup> In fact, studies of minimally invasive techniques show that this technique is more effective in patients with hypodense images.<sup>2</sup>

The technique described as trans-marrow puncture (TMP) is minimally invasive and very similar to the twist-drill technique. However, TMP uses a catheter over a 14-gauge (1.63 mm) sterile needle. It does not require use of a drill.

With regard to the mortality analysis, our intent was to describe overall mortality in the series, which is why we included all 127 patients. After considering the comment, we have decided to calculate mortality rates in only those patients who underwent TMP. The in-hospital mortality rate for patients undergoing TMP was 4.3% (5/116), with a 6-month mortality rate of 12% (14/116).

With regard to the failure rate, we should clarify our definitions. From our perspective, failure of the technique

included the need to resort to more invasive techniques such as burr holes or craniotomy (17% in our series). As stated in the original article, the need for multiple punctures does not entail increased risk or complications for the patient. It would be appropriate to mention "incomplete drainage" for patients whose condition did not resolve with the first TMP.

Regarding the treatment, we reiterate that a prospective randomised study is needed in order to determine which technique is optimal. Although the literature contains numerous articles that support burr holes as the first treatment option, there are also other options that may be selected as initial techniques depending on the patient's characteristics, age, and comorbidities, and on the neurosurgeon's level of experience.

In conclusion, our intent was to describe our experience and point out that, in the absence of class I or II studies to determine which is the best initial treatment, TMP is yet another option for elderly patients with multiple comorbidities.

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