

Septic cavernous sinus thrombosis

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Clinical

A 42-year-old woman presented complaining of frontal headache, postnasal dripping, recurrent vespertine fever and left eye pain for 15 days. Physical examination revealed mild signs of sinusitis, associated with a left lower erythematous palpebral oedema, which initially suggested periorbital cellulitis. She was admitted for proper evaluation and clinical management.

Laboratory analysis, including haemogram and coagulation tests were both normal. Nevertheless, oral cephalexin therapy was initiated to empirically treat periorbital cellulitis. On the third day following admission, the pain has worsened, and the patient presented left-eye ptosis, proptosis and chemosis (Figure 1). On behalf of this clinical scenario, the diagnosis of septic cavernous sinus thrombosis (SCST) was promptly considered.

Figure 1. Photograph showing extensive chemosis associated with periorbital oedema. A patient with this clinical presentation should always be suspected for having cavernous sinus thrombosis



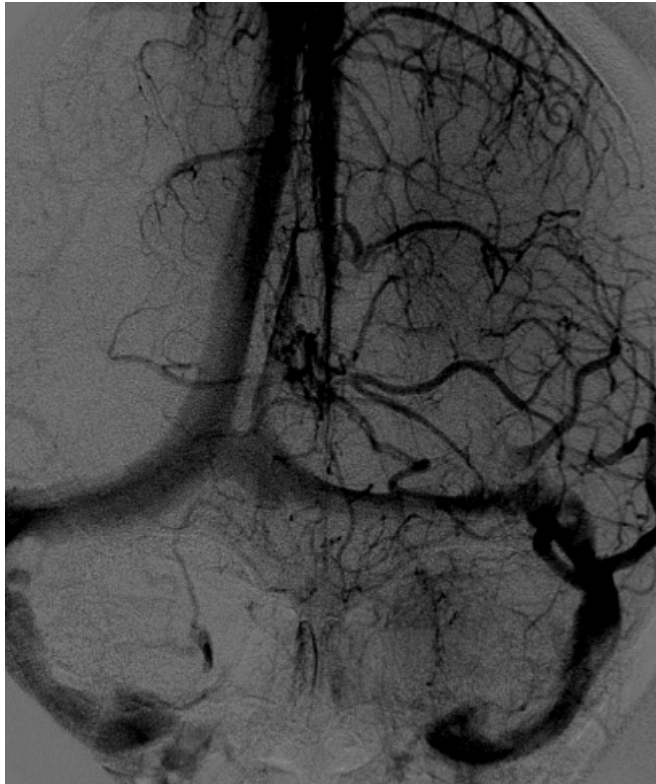
Computed tomography (CT) of the head confirmed the presence of left-eye proptosis, and revealed diffuse thickening of the neurovascular optical tract and orbital muscles (Figure 2).

Figure 2. Computed tomography (CT) scan of the head showing significant thickening of the neurovascular tract and orbital muscles of the left eye



Moreover, angiography showed bilateral interruption of contrast flow inside the cavernous sinus (Figure 3), corroborating the diagnosis of cavernous sinus thrombosis (CST).

Figure 3. Angiography revealing bilateral flow interruption (bottom of the image), demonstrating bilateral thrombosis of the cavernous venous sinus



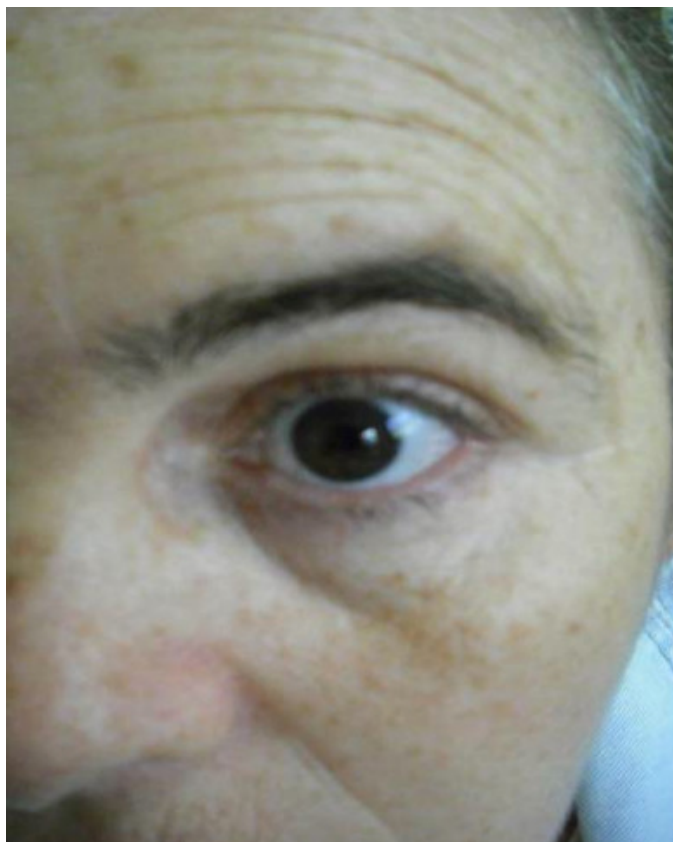
The patient was treated with broad-spectrum antibiotics, corticosteroids and heparin, and was discharged asymptomatic within 5 weeks (Figure 4).

Discussion

Septic cavernous sinus thrombosis (SCST) is a quite rare but life-threatening condition, which mortality used to reach 100% before the antibiotic era.¹ The order symptoms appear depends on the primary site of infection;² however, fever, ptosis, chemosis, proptosis and cranial nerves palsies are very frequent.^{1,3} In this case, no signs of dental infection or sinusitis were radiologically confirmed, but symptoms` cronology had suggested primary external infection.

In association with clinical parameters, imaging modalities currently play a diagnostic role, especially angiography and magnetic resonance (MR), which was not performed in this case due to institutional issues. In such situations, thin-section CT (3 mm or less)⁴ demonstrates to be useful, even though it may not provide early diagnosis and great anatomical detailing as MR does.

Figure 4. Photograph of the patient after 5 weeks of treatment, showing almost complete resolution of initial presentation



Therapy mainly consists in broad-spectrum endovenous antibiotics and corticosteroids, associated or not with anticoagulant drugs.⁵ The duration of treatment is variable, and will respect individual basis. Although, mortality rates are still high, ranging from 15% to 30%. Therefore, recognizing and treating SCST as soon as possible demonstrates to be the most effective action to decrease mortality and prevent subsequent sequelae.

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