



# Enfermedades Infecciosas y Microbiología Clínica

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Diagnosis at first sight

## Proptosis and head circumference enlargement during puerperium

## Proptosis y aumento del perímetro craneal durante el puerperio

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### Case report

This was a 17-year-old female, native of Guinea-Bissau, resident in an urban area, with no relevant previous medical history. She was admitted to Hospital Nacional Simão Mendes in Bissau (Guinea-Bissau) with headache and increased head circumference, 15 days after a full-term delivery with stillbirth in a health centre. On physical examination, the patient was febrile and haemodynamically stable. An increased head diameter was observed, with fluctuation, which was predominantly frontal and parietal, but also in the ocular region, with a notable proptosis causing severe limitation of eye opening and movement (Fig. 1). No meningeal signs or neurological focal signs were observed. Laboratory results showed a haemoglobin level of 7.8 g/dl, with a mean corpuscular volume of 72 fl, leucocytes 26,200/μl with neutrophils 15,569/μl, and an erythrocyte sedimentation rate of 56 mm/h. Chest X-ray showed cardiomegaly with no other relevant findings. An immunochromatography test was performed to rule out human immunodeficiency virus (HIV) infection using the Determine™ HIV Early Detect kit (Abbott®, Illinois, USA).

### Clinical course and diagnosis

As a complex skin and soft tissue infection was suspected, the previous therapy was supplemented with intravenous (IV) ceftriaxone 2 g with additional vancomycin coverage at a dose of 15 mg/kg IV every 12 h, after a loading dose of 25 mg/kg. Dexamethasone was also administered at 4 mg IV every eight hours as adjunctive treatment for severe eyelid oedema. Due to the limitations of the hospital, which does not offer emergency computerised tomography (CT) scanning, it was decided to perform transcutaneous drainage through two incisions in the scalp and bilaterally



**Figure 1.** General appearance of orbital cellulitis with predominantly fronto-parietal extension to the head.

at eyelid level, extracting one litre of purulent content from subcutaneous collections. Methicillin-sensitive *Staphylococcus aureus* was isolated from the samples sent to the Microbiology laboratory. The CT performed later confirmed the clinical suspicion, showing orbital cellulitis complicated by orbital and frontal subgaleal abscess, with possible subperiosteal involvement (Fig. 2A and B), in addition to signs of chronic sinusitis in both frontal sinuses and the left maxillary sinus (Fig. 2C).

The final diagnosis was abscessed orbital cellulitis, extending to the subgaleal region as a complication of a probable frontal and/or maxillary sinusitis. The patient made satisfactory clinical progress after transcutaneous drainage performed in the General Surgery Department and administration of the aforementioned antibiotic therapy for seven days. Subsequently, following the results of the antibiogram, treatment was adjusted to amoxicillin-clavulanic acid, completing a total of 21 days, with complete resolution of the condition.

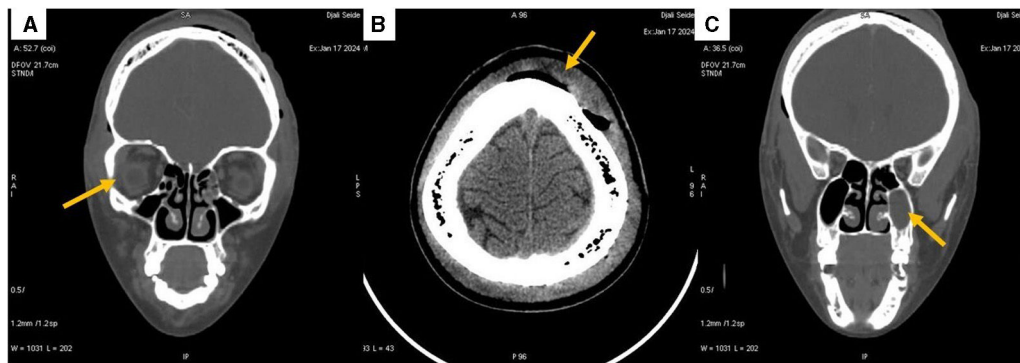
Orbital cellulitis is defined as an infection of the soft tissues of the orbital cavity, which may be secondary to sinusitis. Ethmoid involvement is more common in the paediatric age group, and frontal or maxillary in adults. The Chandler classification is used to assess the severity of the infection,<sup>1</sup> with our patient classified as stage IV, corresponding to orbital abscess. Orbital cellulitis and its complications constitute a medical-surgical emergency due to the risk of serious complications, such as optic nerve injury, cav-

DOI of original article: <https://doi.org/10.1016/j.eimc.2024.09.003>

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**Figure 2.** A) Intraorbital collection. B) Subgaleal abscess. C) Occupation of the left maxillary sinus.

ernous sinus thrombosis, meningitis and/or spread to the brain parenchyma.<sup>2</sup> A head scan is required in order to diagnose orbital abscess and assess possible complications. In our case, there was a delay of three days for the CT scan, so, in view the severity of the clinical picture, it was decided to perform surgical drainage based on clinical suspicion. Unlike the usual transnasal approach, due to the location of the abscess and the available resources, a transcutaneous approach was used. For large collections of pus, especially in older children and those with established visual impairment, the addition of surgical treatment is recommended.<sup>3</sup> Vancomycin was initially added due to the severity of the infection and recent hospital contact, considered a risk factor for methicillin-resistant *S. aureus* colonisation. Clinical suspicion in conjunction with early diagnostic-therapeutic decision-making is key to managing orbital cellulitis and its possible complications.

## Funding

No funding was received for this study.

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