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RESEARCH ARTICLE

BLINDNESS AFTER ORBITAL CELLULITIS OF PANSINUSITIS ETIOLOGY: A CASE REPORT

Hassane Amadou Bouba Traoré[1], Salissou Iro[2], Moctar Issiaka[3] and Hamidou Amadou Bagna[4]

[1]Centre Hospitalier Régional de Maradi, Service D'ophtalmologie ; Université dan Dickodankoulodo de Maradi
[2]Service de Stomatologie et Chirurgie Maxillo-Faciale, Hôpital de Référence de Maradi
[3]Complexe Ophtalmologique Makkah-Maradi
[4]Centre Hospitalier Régional de Tahoua, Service D'ophtalmologie

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***Corresponding author:**
Hassane Amadou Bouba Traoré

ABSTRACT

Objective: The Aim of This study was to demonstrate the need for early and appropriate management of orbital cellulitis secondary to pansinusitis, in order to avoid serious functional and even life-threatening complications. Material and method: This was an observational case of a 17-year-old female patient with no known pathological history, admitted for left frontal swelling, palpebral edema, associated with bilateral periorbital erythema, more marked on the left. Hematological examination revealed an infectious and inflammatory syndrome: WBC 15.30 elements/mm3, CRP 69.40 mg/l, normal blood glucose 84.40 mg/dl. A CT scan of the orbitocranium, performed without injection of contrast medium in an emergency situation, showed pansunusitis associated with an abscess of the subcutaneous soft tissues opposite, and obstruction of the left maxillary sinus meatus and ostium. Under general anaesthesia, a 15 cm incision was made at the tail of the eyebrow, and the yellowish-coloured pus collection of around 200 cc was detached and drained. Medical treatment with antibiotics, corticosteroids, analgesics and antiseptics resulted in complete remission of the symptoms. **Conclusion:** Orbital cellulitis in young subjects is a rare condition, but it can lead to serious functional and vital complications. Urgent and effective treatment is therefore essential to avoid blindness or death.

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INTRODUCTION

Orbital cellulitis secondary to pansinusitis is a rare ophthalmic condition. It accounts for 80% of sinusitis complications. (1) Sinusitis remains the most common cause. The risk of serious, life-threatening complications requires rapid diagnosis and early management. (2) We report the case of a 17-year-old patient presenting with blindness following left orbital cellulitis complicating pansunitis, the diagnosis and management of which were delayed. The aim of our work is to present the need for perfect and early management in order to avoid a dramatic situation leading to loss of sight and to preserve the patient's life.

Clinical observation

Case report: This is a 17-year-old female patient with no known pathological history, admitted for a chronic migraine syndrome associated with palpebral swelling, more pronounced on the left.

On admission to the Maradi referral hospital, the patient was seen by the Maxillo-facial surgeon for an exo-buccal examination. She presented with left frontal swelling, palpebral edema and bilateral periorbital erythema, more marked on the left. (Figure 1A). It should be remembered that the patient had begun unsuitable treatment in a local health center, but the diagnosis of certainty had not been established, as the distance as the crow flies between her locality and our care unit at the Maradi referral hospital is over 234 km away. On admission to the maxillofacial surgery unit, the patient was hospitalized for left orbital cellulitis; hematological examination revealed an infectious and inflammatory syndrome with: WBC 15.30 element/mm3, CRP 69.40 mg/l, normal blood glucose 84.40 mg/dl. A CT scan of the orbitocranium, performed without injection of contrast medium in an emergency situation, showed pansunusitis associated with an abscess of the subcutaneous soft tissues opposite, and obstruction of the left maxillary sinus meatus and ostium (Figure 2, Figure 3). In the operating theatre, under

general anaesthetic, a 15cm incision was made at the tail of the eyebrow, a detachment was performed and finally, a collection of yellowish-coloured pus of around 200cc was drained (figure 5). The pus sample was sent to the laboratory, but proved negative. Postoperatively, treatment was initiated with isotonic saline 0.9% 500ml /12H; Perfalgan injectable +Acupan 20mg/6H, broad-spectrum antibiotic therapy consisting of ceftriaxone 2g/24H, Dacryoserum 1 ampoule/8H, Hydrocortisone 100mg/24H. This treatment resulted in a clear remission of symptoms. An ophthalmological opinion was sought: visual acuity in the right eye was 10/10 and no light perception in the left eye. Examination of the adnexa was unremarkable in both eyes, apart from the presence of a healing scar from a left supraorbital incision. Examination of the anterior segment was normal ODG. After pupillary dilatation with mydriaticum collyrium, the vitreous of the right eye was normal, but the left eye showed marked hyalitis and the left eye showed temporal papillary pallor, while the left eye was unremarkable.

Figure 1A/B. Left frontal swelling and condition after the patient's release

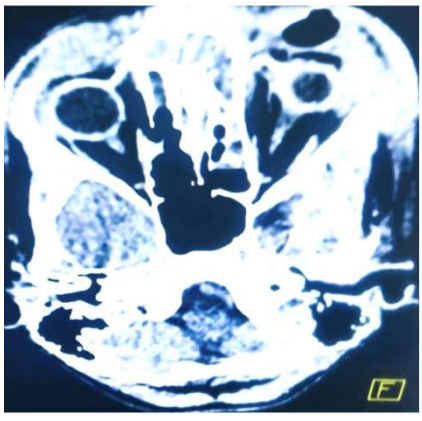

Figure 2. Preorbital soft tissue thickening with subcutaneous emphysema bubbles

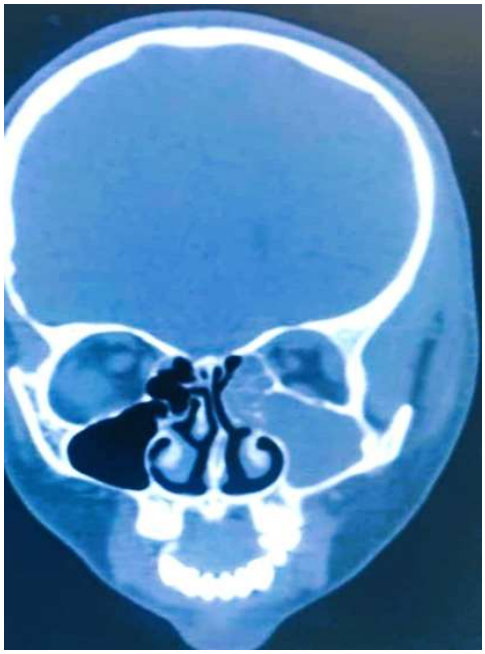

Figure 3. Mucous filling of the left maxillary sinus, showing the Pansunisian origin of the left orbital cellulitis

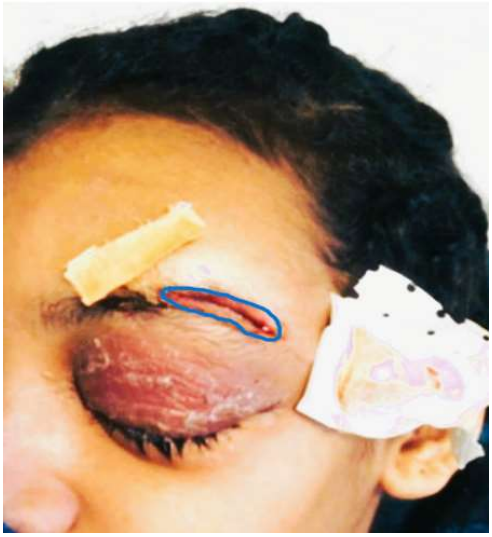

Figure 5. incision at the tail of the eyebrow after drainage of the pus collection

DISCUSSION

Orbital cellulitis is a relatively common cause of orbital inflammation. In children, it is responsible for 0.9% of paediatric admissions per year, according to a Canadian series. (3) Retro septal cellulitis is associated with serious ophthalmological complications (blindness, ophthalmia) and neurological complications (cavernous sinus thrombosis, empyema, abscesses). (4) In our case, the 17-year-old patient, despite a well-managed treatment in our unit with marked regression of her symptoms, reached the ultimate stage of functional loss, blindness, due to delayed diagnosis and inappropriate management before her admission to the Maradi Referral Hospital. Clinically, cellulitis represents an inflammatory edema of the eye, usually unilateral, painful and febrile, with an acute onset and rapid progression. (3) If diagnosed and treated early, orbital cellulitis progresses well and without sequelae; any delay in diagnosis or treatment can lead to serious complications that can be life-threatening (5).

The maxillofacial surgeon diagnosed the orbital cellulitis very quickly, and in order to assess ocular function, an ophthalmological opinion was sought. The ophthalmologist carried out an ocular examination of ocular mobility and visual function, which detected blindness following orbital cellulitis of Pansunisian origin. Given the swelling of the left palpebral area and the results of the CT scan, it was decided to admit the patient to the operating theatre. Under general anaesthetic, a 15cm incision was made at the tail of the eyebrow, a detachment was performed and the yellowish-coloured pus collection of around 200cc was drained. Antibiotic treatment was instituted, which led to a significant improvement in his general condition. The retro septal form remains a possible cause of blindness and even mortality in the event of complications. (5) Our case study is a case of blindness following retro septal orbital cellulitis. Our patient received the best possible care in our unit at the Maradi referral hospital, and her general condition is good despite the blindness in her left eye. The factors favoring this pathology in children are related to the reduced venous return caused by the infection at the root of the palpebral edema, and to the very thin inner wall of the orbit, combined with the complexity of the periorbital venous network, which favors the spread of neighboring infections. (4) Blindness is secondary to mechanical optic neuropathy, vascular origin through ischemia, thrombophlebitis or inflammatory origin (infectious neuritis). (5) In practice, Chandler's classification is the most widely used, based on the extent of inflammation in relation to the anatomical-physiological barriers of the orbit, i.e. the orbital septum and periosteum. (6)

CONCLUSION

Orbital cellulitis in young people is a rare condition, but it can lead to serious functional and life-threatening complications, making urgent and effective treatment essential to avoid blindness or death.

Conflicts of Interest: The authors declare no conflicts of interest.

Consentement: Written informed consent was obtained from the patients for publication of these case reports and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Authors' Contributions

All authors have contributed to the realization of the work. They also declare to have read and approved, and to have made amendments to the final version of the manuscript.

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