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Case Report

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CAVERNOUS SINUS THROMBOSIS: UNCOMMON COMPLICATIONS OF SINUSITIS. CONCERNING TWO CASES IN CENTRAL HOSPITAL OF YAOUNDE

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ABSTRACT

Cavernous sinus thrombosis is an uncommon condition manifested by clinical signs of pain, exophthalmos, ophthalmoplegia, papillary edema and fever. The first observation is a 8 years old boy who received all vaccine doses presented with sharp and severe headache and fever, associated with bilateral eyelid swelling, exophthalmos and otorrhea. The CT scan has shown thrombophlebitis of the upper sagittal sinus and the patient was put on treatment and observation. The second observation is a 17 years old adolescent hada severe headache, loss of visual acuity, exophthalmos, photophobia and altered consciousness. The physical examination noted eyelid edema. The craniofacial CT scan with and without injection noted a defect of opacification of the cavernous compartment and a filling of the posterior ethmoidal cells. The patient was put on treatment. The evolution has been favorable.

Keywords: THROMBOSIS CAVERNOUS SINUS.

INTRODUCTION

Endocranial venous sinus thrombophlebitis are uncommon, but serious. Their incidence and mortality have been reduced thanks to antibiotic therapy and medical imaging. We report here two clinical cases, one of superior longitudinal sinus thrombosis and the other of the cavernous sinus, followed by a review of the literature.

CLINICAL CASES

CLINICAL CASE No 1: Thrombophlebitis of the superior longitudinal sinus.

8 years old boy, well vaccinated, without any contributory history, referred from a pediatric service for management of a purulent right fronto-parietal collection. The history of the disease reveals that the picture set in a week before this consultation, with sharp and rebellious headaches and a fever which were treated by self-medication. Then there was bilateral eyelid swelling, followed by bilateral exophthalmos, otorrhea and purulent eye discharge. The patient was then hospitalized in the pediatric department, antibiotic therapy instituted. The evolution will be marked by the appearance of a right fronto-parietal collection and left hemiplegia. A brain scan was then requested, which revealed a right orbito-frontal process with mass effect, cockadeenhancement after injection of contrast product, extension of the process to the right maxillary and ethmoidal sinuses and signs of thrombophlebitis of the sagittal sinus. superior. It was this result that motivated his transfer to ENT.

The physical examination showed the following parameters:

T °: 37 ° C, Pulse: 98 beats / min, Weight: 24 kg, FR: 22 cycles / min, Glasgow score: 15/15. We also found:

- a soft, painful right orbital-fronto-parietal swelling, the puncture of which brought back pus.
- Bilateral eyelid edema with right exophthalmos and ophthalmoplegia. Visual acuity was maintained.
- Bilateral purulent rhinorrhea
- A normal otoscopy
- An oral cavity without peculiarities.
- A flexible neck
- An absence of cervical lymphadenopathy
- Left hemiparesis.

RECOMMANDATIONS OF TREATMENT

We incised and drained the suppurative collection under local anesthesia, by placing a Delbet blade and instituted antibiotic therapy based on ceftriaxone (2g intravenously / 24h) and metronidazole (250 mg infusion / 12h). Analgesia was provided by paracetamol (500 mg infusion / 8h). Bethameth as one has been used as an anti-inflammatory (120mg / 24h). Daily dressings were made. The pus test was unsuccessful. A positive evolution was noticed by the regression and gradual disappearance of the swelling, the gradual recovery of the motor skills of the left hemi body. A CT scan showed all signs had disappeared.

CLINICAL CASE No 2: Thrombophlebitis of the cavernous sinus.

17 years old teenager, with no particular history, admitted to our department with a picture of severe headaches, reduced visual acuity, exophthalmos, photophobia and impaired consciousness. He had spent three weeks in a local health center, where his fever and headache were treated like malaria. It should be noted that the patient had also taken multiple antibiotics without specific indication. It was because of his condition jumped from the frying pan to the fire that the family decided to consult at the Yaoundé Central Hospital where they were referred to the ENT department. The ENT examination noted the following parameters: BP: 100/80 mmHg, Pulse: 110 beats / min, T °: 38 ° C, FR: 21 cycles / min and Glasgow: 14/15. The remainder of the examination revealed bilateral eyelid edema, left conjunctival chemosis herniating into the eyelid cleft, diplopia, left mydriasis, paralysis of the left III, IV, VI and right III nerves. The patient's neck was stiff. He presented with a

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predominantly purulent rhinorrhea on the left. Faced with this Chandler stage 5 orbital cellulites picture, we performed a lumbar puncture, which analysis of the fluid was found to be sterile. A craniofacial CT scan with and without injection of contrast product showed a defect in opacification of the cavernous compartment, exophthalmos, opacification, densification of intra-orbital fat. In the osseous window, one noted a partial filling of the ethmoidal cells predominant on the posterior ones and a filling of the left maxillary sinus with a hydro-aeric level. A bony rupture between the posterior ethmoid and the left orbit was visible. An ophthalmologic consultation revealed left papillary edema. We drained the left maxillary sinus by puncture and instituted treatment based on ceftriaxone (4g / 24h), metronidazole (500 mg / 8h), Gentamycin (80 mg / 12h), Paracetamol (1g / 12h), tramadol (100 mg / 12h) and betamethazone (240 mg / 24h). The pus analysis in this case was also unsuccessful. Progress has been made towards recovery and resolution of all clinical signs, except for a residual exophthalmos and reduced visual acuity in the left eye. A control scanner has been requested but has not yet been done due to lack of funds.

DISCUSSION

Thrombophlebitis of the endocranial venous sinuses are rare, but serious (Bouslama M 2007; El Midaoui A 2009). They are multifactorial and have many causes, which can be classified into infectious, non-infectious and idiopathic causes; the latter representing up to 1/3 of cases (Babin E 2003; Park SN 2003; El Midaoui A 2009). The contributing factors are taking oral contraceptives and pregnancy. Infectious cerebral thrombophlebitis due to infections in the vicinity which can come from the paranasal sinuses or the cavities of the middle ear. Sinus pathology most often affects the superior longitudinal sinus or the cavernous sinus (Bayonne E 2007). Cerebral venous drainage takes place through three networks: cortical (superficial) veins, deep veins and posterior fossa veins. These networks terminate in the venous sinuses of the dura which are the superior longitudinal sinus, the inferior longitudinal sinus, the right sinus and the lateral sinus which has two parts, the transverse sinus and the sigmoid sinus. These sinuses meet at the level of the posterior confluence or press of Herophilus (El Midaoui A 2009). The sinuses responsible are the posterior ethmoidal cells and the sphenoid sinus, from extensive thrombosis from the sinus mucosa. It is rarer for untreated or poorly treated otitis complicated by mastoiditis to cause cavernous sinus thrombosis, either by retrograde thrombosis from the petrous sinuses or by infectious continuity from petrous osteitis (Bouslama M 2007). Before the antibiotic era, their mortality was 100% (Kriss TC 1996). According to Bayonne et al, who are reviewing the literature, mortality fluctuates between 0 and 16% (Yaringlon 1977; Bayonne E 2007). An Indian study by Singh et al stands out with a mortality rate of 16% and a 46% sequelae rate. The author explains it by the inefficient diagnostic and therapeutic means in developing countries (Bayonne E 2007). However, more than the thrombophlebitis itself, intracranial complications dictate the prognosis. Thus, brain abscess increases mortality to 31% (Bouslama M 2007). In both patients, the starting point was sinus. It should be noted in both cases a diagnostic delay due to inadequate management of the initial infection in pediatrics in the first and in a health center in the second. This delay, added to the long delay that patients generally put between the onset of symptoms and the consultation, explain these serious complications of sinusitis. The diagnostic delay is explained, among other things, by the non-specific nature of the signs of thrombophlebitis. In fact, headaches, the most frequent signs, can be progressive or sudden, diffuse or localized and their intensity can range from a simple feeling of a heavy head to a thunderclap headache suggestive of hemorrhage (El Midaoui A 2009). Focal neurological deficits occur, and suggest the diagnosis. Epileptic and psychiatric manifestations are reported. None of the cases described manifested any. This can be explained by the duration of the follow-up which does not give us sufficient hindsight because these manifestations can appear in the acute or after-effects phase (Nagi S 1996; Bayonne E 2007). A meningioma was present in the second case, but the lumbar puncture was found to be normal, confirming Bayonne's observation that this sign is present in 50% of cavernous sinus thrombophlebitis (Bayonne E 2007). The pus cultures were sterile in both cases. This can be explained by the different treatments taken by the patients before the samples. For Bayonne et al., The bacterial ecology consists of Staphylococcus aureus and pneumococcus (Bayonne E 2007). The reference imaging modality for demonstrating cerebral venous thrombosis is magnetic resonance imaging (MRI). Indeed, it makes it possible to make the diagnosis, study the extension and search for a possible underlying cause. However, it is the scanner that is most often requested in first intention (El Midaoui A 2009). In both cases described, the scanner was the modality used, because of its affordability compared to MRI. The treatment of infectious thrombophlebitis is medico-surgical. Antibiotic therapy should target the above germs, and the affected sinus should be drained. The maxillary sinus is drained by puncture and the sphenoid by sphenoidotomy. Corticosteroid therapy and heparin therapy are still controversial. The latter would only decrease the number of complications by slowing the spread of the thrombus, without reducing mortality. Some authors even believe that it can promote septic embolism or even fatal brain hemorrhages (Bouslama M 2007). Some teams use it systematically, but very strict monitoring is required to avoid complications (Fischer U 2008; Bayonne E 2007). We did not use it in the two patients. However, we used corticosteroids. Indeed, we bet on their anti-edema effect. In addition, the decline in visual acuity in the second patient made this an excellent indication (Bouslama M 2007). However, some authors advise against it because of its possible thrombogenic effect (Fischer U 2008). The predictors of death identified are coma on admission (Glasgow <9), confusion and seizures (El Midaoui A 2009). The second patient had a slight confusion when entering ENT. The possible sequelae are hemiparesis, dysphasia, deficits in higher functions, epilepsy and deafness (Bayonne E 2007).

CONCLUSION

Dura mater sinus thrombophlebitis are rare, but serious. Its clinical expression is polymorphic because its signs are not very specific. Despite the multi factorial diagnostic delays that are common in our environment, improved imaging and well-conducted therapy can significantly reduce mortality and sequelae.

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