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Case Report

Management of brain abscesses: a case report

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ABSTRACT:
Abscesses and empyemas are frequent intracranial lesions, constituting a diagnostic and therapeutic emergency. We report the clinical, paraclinical and therapeutic aspects of these intracranial suppurations observed in one case in our department of the University Hospital Center Mustapha Bacha, Algiers. The analysis focused on clinical aspects: Glasgow coma scale (GCS), presence of neurological deficit, brain imaging with contrast and the search for a portal of entry. Treatment included surgery and antibiotic therapy, and prognosis assessed in the medium term. The portal of entry was ear, nose and throat (ENT) origin in 45%. Trepan puncture performed in 34% of cases in emergency with consciousness disorders or the removal of the shell in 16% of cases faced with the persistence or recurrence of the collection. The good long-term prognostic factors were age, a GCS greater than12 on admission, and trepanning puncture followed by removal of the shell, appropriate antibiotic therapy and the treatment of the portal of entry.

Keywords: Brain abscess, intracranial empyema, Surgery, Complication

INTRODUCTION:

Material and Method:

This is a study in the neurosurgery department of the Mustapha bacha hospital of Algiers, Algeria about the variation of the therapeutic choice according to the picture admission medical treatment alone or associated with surgical treatment by puncture-traporexeresis by craniotomy. The monitoring was ensured by clinical examination, repeated scenographic controls, and an inflammatory assessment. This monitoring was maintained for a variable period of time in order to assess the short-term prognosis (up to 2 months after the treatment)In our case it is a male 29-year-old patient with a history of hepatitis C and otitis poorly followed who presented to the emergency unit for consciousness disorders with a glascow score at 9

An emergency brain CT scan was performed, showing:

An isodense peri-brain collection described in figure 1 of the right hemispheric convexity with a deviation of the midline of 10mm.
The patient underwent surgery with evacuation of the collection through a bone flap. Post-operative patient did not present any neurological complication except for a drug allergy. Three weeks after treatment with claforan and vancomycin (1g three times daily) with (100 mg once a day) as an antiepileptic.

Discontinuation of treatment was indicated:

One month after the treatment, the patient presented very important headaches and a cerebral scanner was done.
A brain scan was performed showing a right frontoparietal abscess with a mass effect (Figure 2). The evacuation of the abscess was impossible as the patient presented in the operating room an allergy to anaesthetic product (propofol), but he received colistin and an anti-epileptic, depakine 500 mg (1 capsule once a day).
The patient did a skin allergy test (pricktest) and the allergen was Gardenal.
He has a surgical intervention for a second time.

Craniotomy with evacuation of the abscess was done (Figure 3 and 4) (excision of the abscess with its shell).
CTscan after complete evacuation of the abscess.
Although, the patient received depakine (1 tablet per day), he presented another convulsive seizure. Hence, the dose of depakine was increased (2 tablets per day).Z

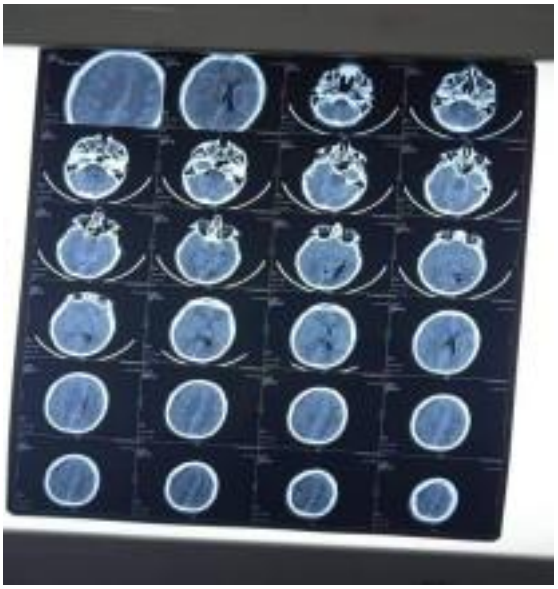

Figure 1. Cerebral scanner objective a peri cerebral hemispheric collection of 9 mm with median of 10 mm

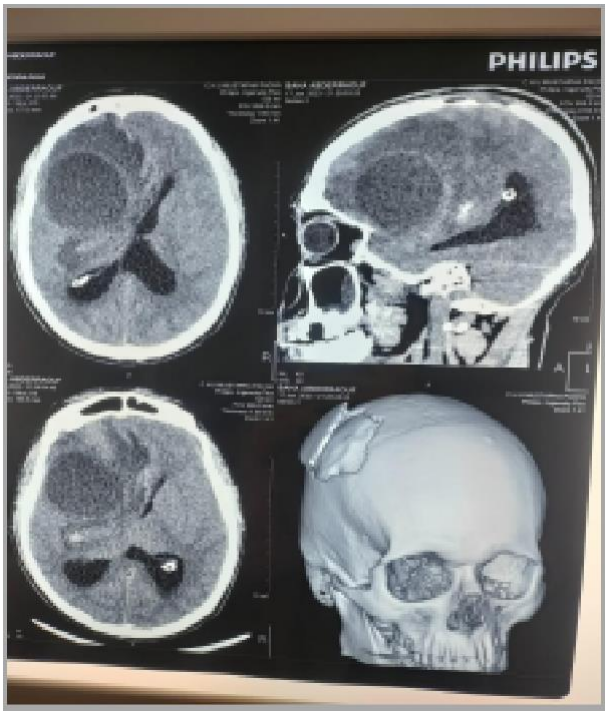

Figure 2. Brain scan showing a fronto-parieto temporal intra axial lesion exerting a mass effect on the homolateral ventricle and the third ventricle

Figure 3. Brain scan after complete evacuation of the abscess

Figure 4. The abscess and its shell

DISCUSSION:

Encephalic abscesses remain a critical pathology because of its morbidity and mortality. Encephalic abscesses can occur at any age; the most affected age group is between 11 to 20 years of age and almost 80% of cases are observed between the 2nd and 4th decade of life. It is a rare disease but it remains a crucial pathology with an annual incidence of approximately one case per 100,000 people, slightly more increased in young children and the elderly, as well as in immunocompromised persons. The search for an entry point is systematic in the management of patients. The main portal of entry in our series is the ENT sphere. Intracranial epidural abscesses and subdural empyema may be due to the sinus or ear infection. Infections of the ENT sphere represents the most frequent portal of entry, with 48% in Menon et al., and 62% in Faraji-Rad et al., series. In our serie, the portal of entry is a chronic maltreated otitis media. The clinical picture suggestive of brain abscess is the BERGMAN triad. The prognostic factors are the age of the

patient, the neurological status at admission, and the treatment method used. Low GCS, immunosuppression, and terrain are factors of poor prognosis. The scenographic evolution is characterized by the decrease in the size of the abscess (puncture), persistence of a sequential image after clinical and biological healing (puncture) and the presence of an encephalic cavity (excision). According to several authors, surgical excision has been applied from the outset, given the neurological and clinical condition of our patient. In series of Hakan and Chaoui, 37.80% of patients which is higher than the reported results of 16% and reported results, respectively 16% and 11.11% of cases. In Chaoui et al., serie, the morbidity was 18.3% and mortality was 6.7% [8]. Imaging plays a key role in the positive diagnosis by detecting the lesion, its location, a possible and ruling out differential diagnoses. It also contributes to the Etiological diagnosis, although the germ is identified in only 50% of cases.

CONCLUSION:

Encephalic abscesses are rare but serious, advances in imaging have greatly facilitated the treatment, combining a medical and surgical approach. The choice of the surgical procedure depends on the characteristics of the abscess and the patient's condition. The long-term sequelae can be severe, justifying curative and preventive treatment of potential entry points.

In the same way, an early diagnosis of these lesions is essential for the improvement of the morbi-mortality, hence the importance of raising awareness among general practitioners and emergency physicians in the various hospital structures.

A prognostic study has been made by several authors on abscesses and empyema, a deduction has been made on the mortality which is included between 2014 and 40%. One of the cases with neurological sequels in a little less than half of the survivors [1] (NicolosiA, Hauser Minnesota 1991)

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