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Primitive Cavum Tuberculosis: An Unusual Location of Mycobacteria

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Abstract: *Objective:* This is a 17-year-old patient with no known history who had consulted the ENT department of the CHU-Gabriel Touré for persistent obstruction of the right nose. Its clinical history dates back to approximately 03 years, marked by a unilateral right nasal obstruction of progressive installation and permanent evolution associated with purulent posterior rhinorrhea, anosmia, right hypoacusis, headaches in helmet and an alteration of the state. general. There was no notion of cough, evening fever or epistaxis. These symptoms motivated several unspecified treatments without improvement. Before the onset of ptosis and ipsilateral blindness, he consulted us for support. We noted on otoscopy a dull right eardrum with a hearing loss of 25 decibels (db). Ophthalmological examination showed ptosis, ophthalmoplegia and blindness on the right side. Nasofibroscopy revealed a budding lesion taking up the entire right half of the roof of the nasopharynx filling the Rosenmüller fossa. There was no palpable cervical adenopathy. HIV serology was negative. Maxillofacial computed tomography revealed a rectilinear nasal sinus osteolytic expansive tumoral process extending to the optic nerve as well as to the oculomotor muscles with grade II proptosis (figure 1). Two repeated biopsies of the lesion found tuberculosis in front of a gigantocellular epithelioid granuloma with caseous necrosis. Intradermal tuberculin reaction and AFB sputum became negative. The chest X-ray was normal. We carried out the surgical excision of the lesion and the diagnosis of tuberculosis was confirmed by the anatomopathological examination. The patient was placed under anti-tuberculosis verification according to the 2RHZE / 4RH Protocol. The evolution was favorable after two months with normalization of the signs on nasofibroscopy.

Keywords: Primary Tuberculosis, Cavum, Carcinoma

1. Introduction

Tuberculosis is a chronic infectious disease with human-to-human transmission caused by a bacterium (koch bacillus: BK) belonging to the Mycobacterium tuberculosis complex [1, 2].

Koch's bacillus is a strictly intracellular bacterium with aerobic metabolism, and is acid-fast. Its growth is slow (from two to eight weeks) and facilitated in environments rich in oxygen. The disease most often affects the lungs, but other organs can be affected in a third of cases [3].

In 2014, 9.6 million people worldwide were reported to have contracted tuberculosis, causing an estimated 1.5 million deaths [4]. In 2009, isolated extrapulmonary forms accounted for 27% of reported tuberculosis. The most frequent localizations are ganglionic, osteoarticular (including spinal tuberculosis or spondylodiscitis), pericardial, meningeal, genitourinary or peritoneal lesions. Other disorders of the ENT sphere remain rare [3].

Tuberculosis of the nasopharynx corresponds to all the progressive lesions of the granulomatous type of the mucosa following infection with the bacillus of koch, it is a rare localization of the disease in its original form, it was initially described by GRAFF in 1936 [5].

The aim of this work is to expose the clinical presentation of nasopharyngeal tuberculosis and to review the diagnostic

difficulties of the pseudotumoral form.

2. Clinical Case

This was a 17-year-old patient with no known history of illness who had consulted with the ENT department of CHU-Gabriel Touré for a persistent right nasal obstruction.

Its clinical history goes back to about 03 years, marked by a unilateral right nasal obstruction of progressive installation and permanent evolution associated with purulent posterior rhinorrhea, anosmia, right hypoacusis, helmet headaches and an alteration of the general condition. There was no notion of cough, evening fever or epistaxis. These symptoms motivated several unspecified treatments without improvement. Before the appearance of ptosis and ipsilateral blindness he consulted us for support.

On physical examination, the WHO activity index was scored at 1. Otoscopy found a dull right eardrum with a hearing loss of 25 decibel (db). Ophthalmologic examination showed on the right side a ptosis an ophthalmoplegia and a blindness. Nasofibroscopy revealed a budding lesion taking the entire right half of the roof of the nasopharynx filling the Rosenmüller fossa. There was no palpable cervical lymphadenopathy. HIV serology was negative.

Maxillofacial tomodensitometry found a straight nasosinusic osteolytic expansive tumor process extended to the optic nerve as well as oculomotor muscles with grade II exophthalmos (figure 1).

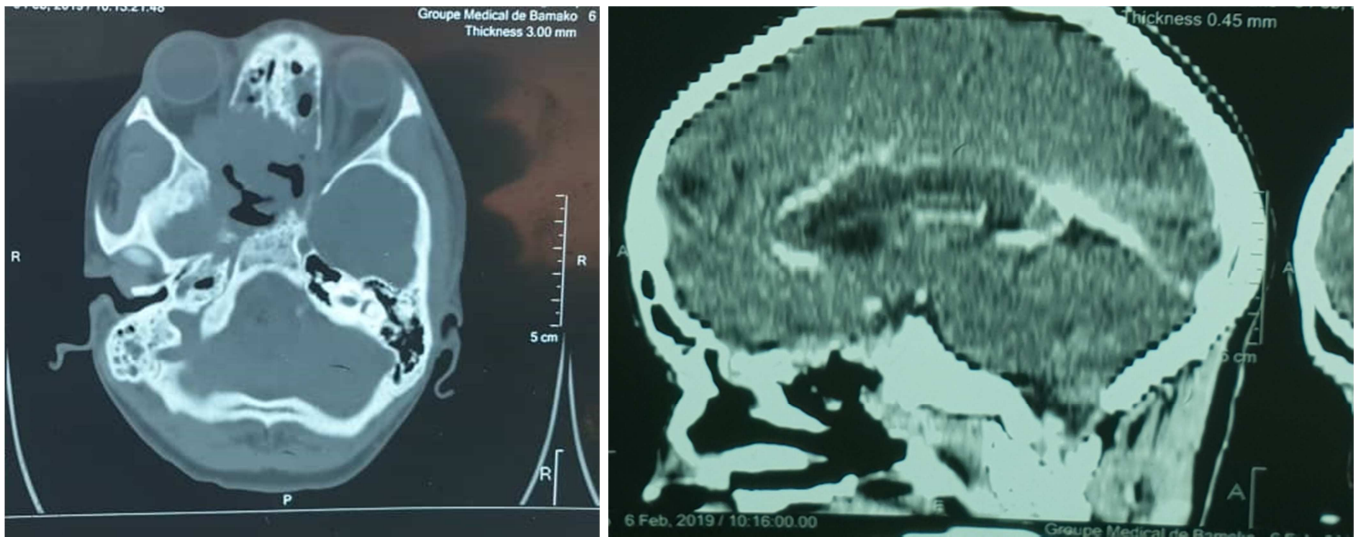

Figure 1. *Axial and coronal CT sections showing a tissue process occupying the cavum choanes the posterior ethmoid and the right orbital cavity with grade I exophthalmos.*

In front of these signs we evoked in the first place a malignant tumor of the cavum. Two repeated biopsies of the lesion found tuberculosis in front of a gigantocellular epithelioid granuloma with caseous necrosis. Tuberculin intradermal reaction and AFB sputum returned negative. The chest x-ray was normal. We performed the surgical excision of the lesion and the diagnosis of tuberculosis was confirmed by pathological examination. The patient was placed on antituberculous chemotherapy according to the 2RHZE / 4RH protocol. The evolution was favorable after two months with normalization of signs at nasofibroscopy.

3. Discussion

Tuberculosis remains a public health problem in Mali. In 2012, its incidence was estimated at 60 new cases per 100 000 population [6]. ENT forms outside ganglionic sites account for 1.8% of all tuberculosis sites [7]. Nasopharyngeal tuberculosis is very rare, most often affecting young adults between the ages of 20 and 40 [3]. It is associated with pulmonary involvement in almost one third of patients [8]. Two modes of contamination have been described in the literature: haematogenous or lymphatic contamination from a primary focus, most often pulmonary; more rarely by direct route through nasopharyngeal secretions [9]. Our study was the illustration, we could diagnose a single case in our service.

The clinical presentation of tuberculosis is polymorphic and nonspecific. The clinical signs are similar to those of a nasal cavum tumor, epistaxis, rhinolalia purulent rhinorrhea or otological signs of hypoacusis associated with cervical lymphadenopathy [3, 5]. Signs of bacillary impregnation may be missing. These signs will first evoke a carcinoma of the cavum.

Indeed, the presence of tuberculous cervical lymphadenopathy must always evoke a cavitary localization. The diagnosis of primary tuberculosis of the cavum is difficult: absence of pulmonary focus and non-specific clinical signs. The diagnostic circumstances are mainly during an etiological assessment for cavum tumor or tuberculous lymphadenopathy. The concept of stay in a tuberculosis endemic area and contagion must be taken into account. In our study the discovery was fortuitous during the assessment of a tumor of the cavum. CT or MRI imaging has no specificity but eliminates local invasiveness. However,

this does not rule out a malignant tumor [3]. We noted in our patient the absence of radioclinic parallelism with images of bone lysis that pleaded for a malignant tumor. These results could be explained by the young age of our patient (immaturity of the cranial bones) and the very long duration of evolution of the disease. Diagnostic confirmation is most often histological based on the presence of gigantocellular epithelioid granuloma with caseous necrosis [5]. However other means such as isolation of BK in nasopharyngeal secretions by direct examination or after culture on specific medium and modern techniques of molecular biology such as PCR can be used [5]. But the PCR must be reserved in case the pathological examination is inconclusive [5]. In our patient, we performed two repeated biopsies that concluded with gigantocellular epithelioid granulomas with caseous necrosis.

The treatment of tuberculosis of the cavum is essentially medical. It is based on a specific antibiotherapy (rifampicin, isoniazid, ethambutol, ethionamide, pyrazynamide, streptomycin) [10]. Surgery is not indicated for the ganglia present or in case of complications. Our patient had evidence of involvement of cranial pairs with blindness and exophthalmia. We proceeded to the surgical resection taking into account the compression of the neighboring structures supplemented by the medical treatment according to the 2RHZE / 4RH protocol.

4. Conclusion

Although rare, cavum tuberculosis must be known. It raises the problem of differential diagnosis with cavum cancer. The evolution is generally favorable under antibacillary treatment. However, surgery may be indicated for efficient management of the ganglia present and in cases of complications.

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