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Tuberculosis of the Nasal Cavities: About Four Cases

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Abstract:- Primary sinonasal tuberculosis is very rare. It is characterized by clinical polymorphism, often posing a problem of differential diagnosis with tumor pathology. It affects women more than man. The diagnosis is essentially histopathological. Its evolution is generally favorable to the consequences of antibacillary treatment. We report the case of four patients admitted to our department for unilateral non-specific nasal symptomatology. The diagnosis was primary nasal tuberculosis.

Keywords:- *Tuberculosis, nasal cavity, inferior turbinate, pseudotumor.*

I. INTRODUCTION

Tuberculosis is a public health problem in our country. It is caused by a resistant acid-alcohol bacillus of the Mycobacteriaceae family (Mycobacterium tuberculosis, M. bovis, M. microti and M. africanum) [1], Nasal tuberculosis is a rare chronic infection [2,3]. It can be primary by inhalation or secondary to another remote location [3,4]. Its rarity could be explained by the protective role related to ciliary movement, the bactericidal action of nasal mucus and the filter role played by vibrissae in the nostrils [3]. It is characterized by a polymorphic and non-specific clinical presentation, often posing a problem of differential diagnosis.

Through our work, we report cases followed up in our department with primary nasal tuberculosis in order to emphasize this exceptional localization of infections.

II. PATIENT AND OBSERVATION

A. Case N 1:

Patient aged 50 years, with a history of a husband treated for pulmonary tuberculosis 2 years ago, admitted to our department in a clinical case made of right unilateral crusteous and purulent rhinorrhea with a complete and permanent homolateral nasal obstruction, associated with repeated epistaxis on the same side evolving for one year and a half, without other particular pathological signs ORL or extra ORL. All evolving in a context of apyrexia, and conservation of the general state.

On examination of the ORL sphere, the rhino-cavo-scopy objectified a pseudo-tumor lesion under smooth mucosa of non-flapping reddish coloration bleeding on contact at the expense of the right lower turbinate covered with crusts reaching the floor of the nasal cavity preventing the progression of the endoscope to the cavum. The other nasal cavity was free with an unharmed cavary mucosa. The rest of the physical examination was without anomalies.

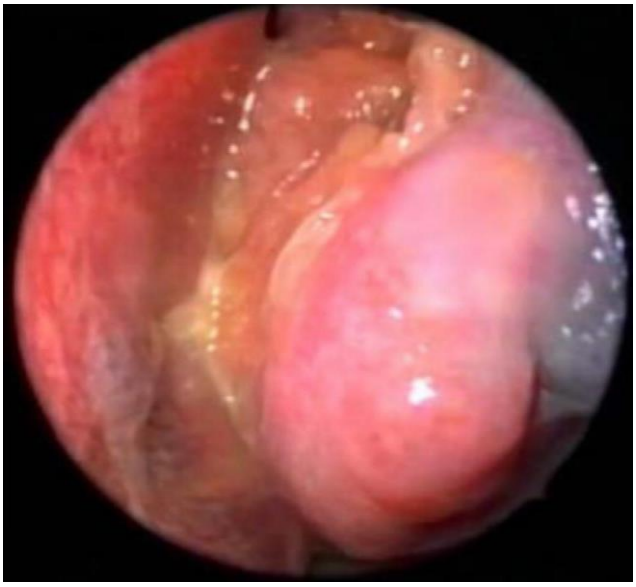

Fig. 1: Endoscopic image showing the tumor of the inferior turbinate

At the para-clinical assessment, a nasal computed tomography (CT) scan was requested thus objectifying a lesional process filling the entire right nasal cavity taking the homolateral lower turbinate of tissue density, without signs of local aggressiveness. It rises discreetly homogeneously after injection of the contrast product. This process measures 10 x 29 x 27 mm. The sinuses of the face have kept normal aeration. It is also noted on the CT, the presence of some bilateral submandibular and jugulo-carotid lymph nodes of infra and juxta centimeter size.

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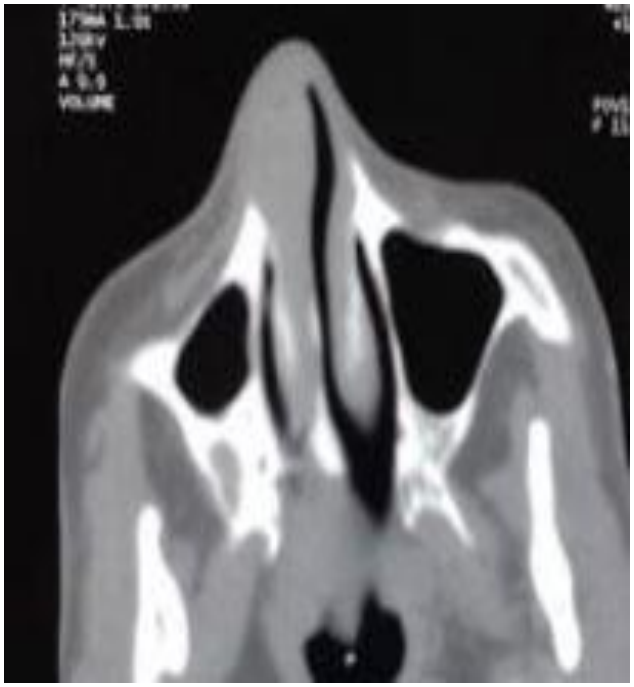

Fig. 2: Axial CT scan of the tumor

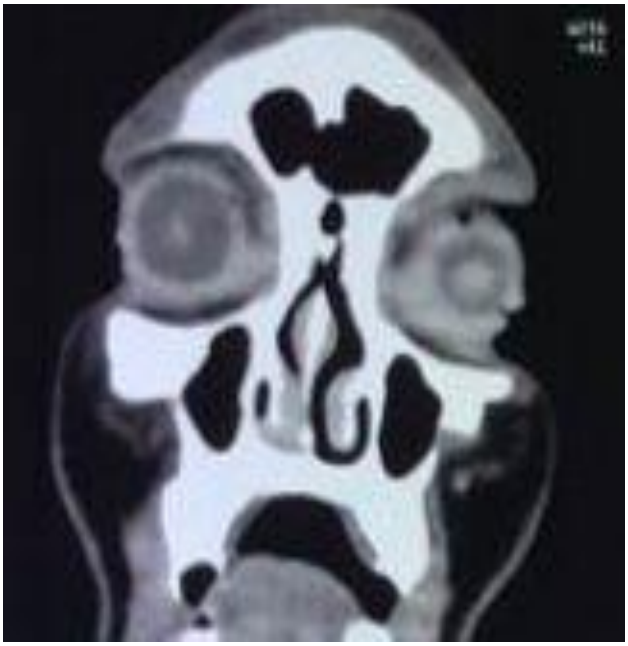

Fig. 3: Coronal CT scan of the tumor

At the biological assessment, a QuantiFERON test was carried out in view of the notion of tuberculosis contage of the patient. He was positive. Two biopsies were performed under local anesthesia based on naphazoline xylocaine. The pathological study revealed for the first biopsy an epithelial and gigantocellular inflammatory reaction without caseous necrosis with fleshy bud lesions. The second was in favor of a vaguely granulomatous chronic inflammatory lesion in acute ulcerative flare-ups, to eliminate tuberculosis in the first place and without obvious histological signs of malignancy.

The biopsy fragment sent for culture on MGIT medium was found to be negative after 45 days. negative GeneXPert in sputum.

Bacteriological samples from sputum and urine were negative. The IDR with tuberculin negative. The standard chest X-ray was also normal.

At this stage, the diagnoses discussed were: A tumor pathology was also eliminated in front of the chronicity of the symptomatology without signs of aggressiveness or extension to the CT and the absence of malignancy to the two biopsies performed. Sarcoidosis and is ruled out in the absence of superficial and deep lymphadenopathy at the cervico-thoraco-abdomino-pelvic scan with a normal phosphocalcium balance. There were no systemic signs in favor of Wegener's vasculitis. Syphilitic serologies were negative. Nasal tuberculosis remained the most likely diagnosis, in front of elements of clinical-histological presumption: tuberculosis contage 2 years ago, a positive QuantiFERON test, the presence of epithelial and gigantocellular granulomatosis and also the frequency of tuberculosis cases, which is still endemic in our country.

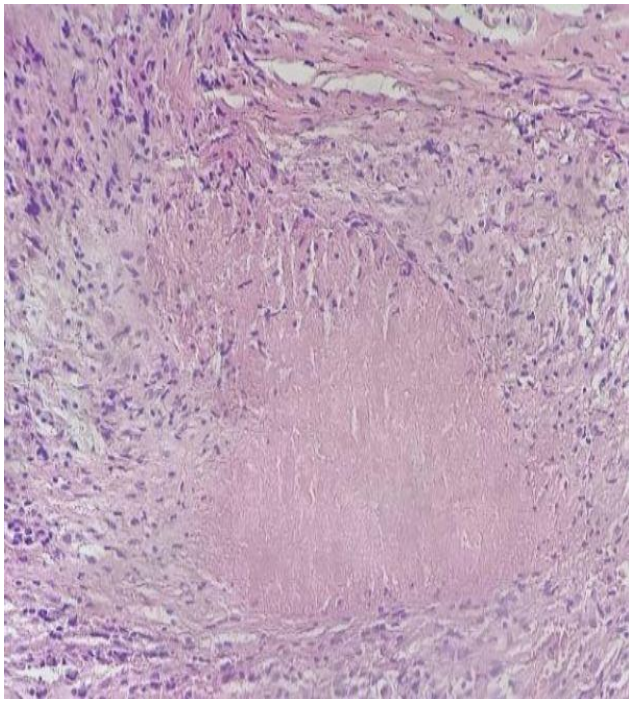

Fig. 4: HE x 40 caseous necrosis surrounded by epithelioid and giganto-cellular granulomatous

In front of the diagnostic impasse, we proposed to the patient to start a trial treatment based on antibacillary(2RHZE/4RH) after having explained the risks of the treatment.

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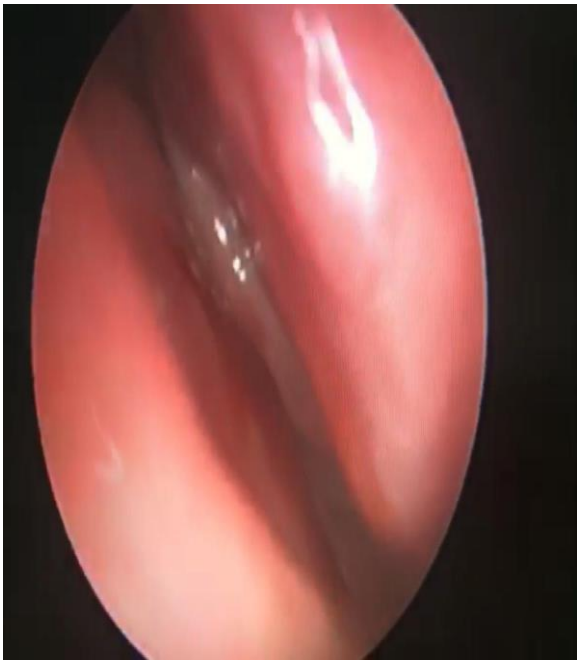

Fig. 5: Endoscopic image showing the inferior turbinate after recovering

B. Case N 2:

Patient aged 45 years, with a sister treated for pulmonary tuberculosis 9 months ago. She was admitted to our department for facial pain with purulent left rhinorrhea without epistaxis or other associated signs. The rest of the clinical examination was unremarkable.

On rhinocavoscopy, a highly inflammatory mucosa of the nasal cavity was noted, with hypertrophy of the inferior turbinate of the right nasal cavity. Facial CT scan (Fig6) showed an enlarged inferior turbinate of the right nasal cavity with left septal deviation and filling of the left false nasal cavity.

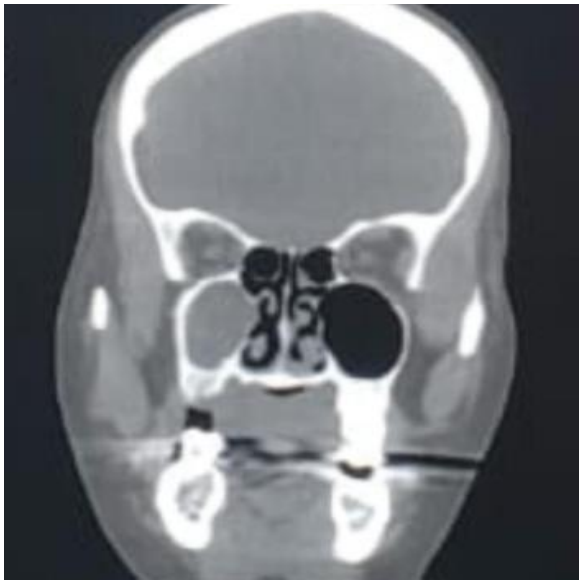

Fig. 6: CT scan of hypertrophy of the left inferior turbinate with filling of the right maxillary sinus

A QuantiFERON test was performed with a positive result. A biopsy was performed under local anesthesia using naphazoline xylocaine. The anatomopathological study revealed a chronic inflammatory granulomatous lesion with caseous necrosis, which should rule out tuberculosis in the first place, and without obvious histological signs of malignancy. At this stage, the diagnoses discussed were: Sarcoidosis was ruled out in the absence of superficial and deep adenopathies on the cervico-thoraco-abdomino-pelvic CT scan with a normal phosphocalcic balance. There were no systemic signs of Wegener's vascultis. A nasosinusal tuberculosis was evoked in view of the clinico-histological presumptions: the sister treated for pulmonary tuberculosis 9months ago, a positive QuantiFERON test, the presence of granulomatosis and also the frequency of tuberculosis cases, which is still endemic in our country and confirmed by the anatomopathological study.

C. Case N 3:

Patient aged 22 years, without any particular pathological history, with the notion of tuberculosis contagion (2 sisters treated for pulmonary and lymph node tuberculosis).

The patient consulted for a right spinal adenopathy, evolving since 3 months, progressively increasing in volume in a context of unquantified weight loss.

The clinical examination showed a 2cm/2cm right mobile, painless spinal adenopathy, without inflammatory signs, with rhinocavoscopy (Fig. 7)): a budding tumour on the right posterolateral wall filling the Rosenmuller's fossa which prompted us to perform multiple biopsies under local anaesthesia whose histological diagnosis showed the presence of an epithelio-giganto-cellular granuloma with caseous necrosis (Fig. 8), without associated signs of malignancy.

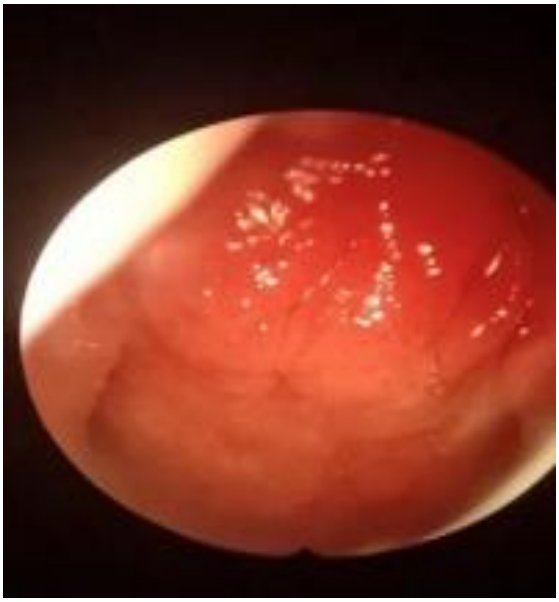

Fig. 7: Endoscopic image showing a budding tumor of the postlateral wall of the nasopharynx

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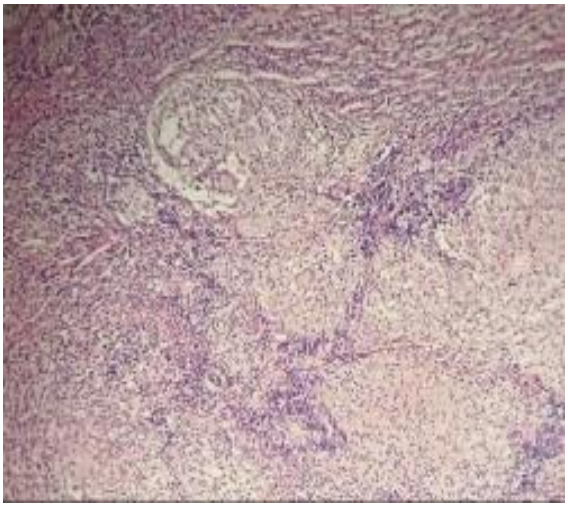

Fig. 8: HE×10 epithelioid and giganto-cellular granulomatous lesion. The granulomas are confluent in places

D. Case N 4:

Patient, aged 14 years old, whitout family history of tuberculosis, admitted to our department for exploration of a right spinal adenopathy, appeared 4 months ago progressively increasing in size, fistulized a week ago, evolving in a context of unquantified weight loss, accompanied by nasal obstruction and homolateral hearing loss.

The clinical examination found a right spinal adenopathy, inflammatory and fistulized skin with pus flow, and measuring 3cm in diameter. The objective otoscopic examination found a right seromucosa otitis media. Nasofibroscopy revealed a tumor bud of the right posterolateral wall of the cavum. Multiple biopsies of the cavum were performed and the anatomopathology study has shown the presence of granulomas epithelio-giganto-cellular epithelials with caseous necrosis. The biological report showed an inflammatory syndrome (Fig. 9)

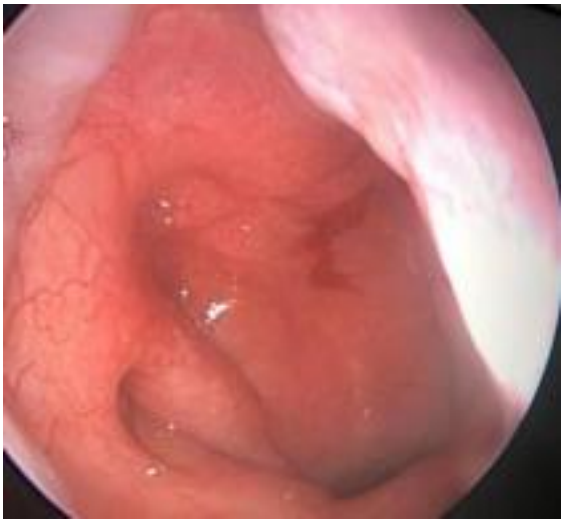

Fig. 9: Endoscopic aspect showing a tumor bud of the right posterolateral wall of the nasopharynx

Our four patients benefited from a check-up in search of a secondary localization, in particular pulmonary, hence the interest of a chest X-ray and the search for BK sputum, the results of which were negative in all cases. The diagnosis of Primary nasopharyngeal pseudotumor tuberculosis with nasopharyngeal localization was retained in all patients.

Antibacillary quadritherapy was instituted based on isoniazid, rifampicin, ethambutol and pyrazinamide according to th 2RHZE/4RH protocol with a good clinical course including the disappearance of rhinorrhea and epistaxis as well as the improvement of nasal obstruction from the second month of treatment, this confirming our diagnosis retrograde for the first case.

The evolution under treatment was also satisfactory in the last three cases, with the control after three months of treatment discontinuation showed a regression of clinical, endoscopic signs. Control biopsies with histological studies have set up a nasopharyngeal sterilization without histological signs of malignancy. Patients are always followed on a regular basis without no local recidivism with an average retreat of 12 months.

III. DISCUSSION

Tuberculosis is one of the most widespread infectious diseases in the world with a state of resurgence partly due to the increase in its target population (immunosuppression, precariousness) in addition to the emergence of multi-resistant strains. Localizations in the ENT sphere are diverse dominated by lymph node localization. Primary nasal tuberculosis is exceptional, appears to be more affected in women after the age of 20 [2,3] this is similar to our case. However, Arlet in 1957 reported a case in an 8 and a half month old infant. The tuberculosis context is exceptional. It comes in different forms including the pseudo-tumor form and therefore rapid management is essential. The most frequently encountered signs are rhinological symptoms: unilateral nasal obstruction, anterior rhinorrhea, repeated epistaxis, nasal ulcerations or polyps [2—4,7]. This is the same symptoms in our serie. The most common nasal locations are the lower turbs and the nasal septum that can be perforated and also the nasopharynx[8].

The diagnosis is based on biopsy with a histological examination that makes it possible to highlight an epithelioid and giganto-cellular granuloma with caseous necrosis. The direct examination using Ziehl-Neelsen staining shows acidoalccolo-resistant bacilli. On the other hand, the culture makes it possible to highlight the Mycobacterium tuberculosis and to test the sensitivity of the BK of this mycobacterium to the antibacillary used [2,4,5,9].

Differential diagnosis occurs with other granulomatous lesions: Wegener's granulomatosis, sarcoidosis, syphilis or leishmaniasis [4,5]. The treatment is essentially medical [5] based on antibacillary: isoniazid, rifampicin, pyrazinamide and streptomycin or ethambutol for 6 to 9 months depending on the course [2,3,4]. The prognosis is generally good, in the

absence of resistance or advanced pseudo-tumor forms requiring surgery[9].

IV. CONCLUSION

With its rare localization, and its polymorphic clinical presentation, nasal tuberculosis is difficult to diagnose often misleading. It should be evoked in front of any unexplained rhinological sign and resistant to the usual treatment. However, his prognosis remains favorable under anti-tuberculosis antibiotic therapy [10].

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