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Original Research Article

Nasosinus mucoceles: about 13 cases in Donka University Hospital, Republic of Guinea

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ABSTRACT

Background: Nasosinus mucoceles are expansive pseudocystic formations of the sinuses of the face formed by chronic retention of mucus in a sinus cavity due to ostial obstruction.
Methods: This was a descriptive study of retrospective data collection. It was carried out over ten years (from 01 January 2008 to 01 January 2018) at the otorhinolaryngology and head and neck surgery department of the Donka University Hospital.
Results: We found an incidence of 1.3 cases per year. The average age was 39.77 years with extremes of 10 years and 60 years. The sex ratio was 0.6. Headaches (92.3%) and facial swelling (76.9%) were the main reasons for consultation. The ethmoid-frontal form was predominant (53.8%). CT scan of the sinuses was performed in all patients. Magnetic resonance imaging was not performed. The diagnosis of certainty was made by anatomy pathology (100%). The paralateral nasal route was the main approach (46.2%). The simple postoperative follow-ups were simple (100%). Lethality was zero.
Conclusions: We noted a low incidence of naso-sinus mucoceles in our series. The symptomatology was fairly standard. Imagery and anatomy pathology established the diagnosis. However, endonasal surgery has become essential in the management. Simple postoperative follow-up would be related to the experience of the surgeon, the severity of the lesions and the proper conduct of post-operative care.

Keywords: Mucocele, Chronic rhinosinusitis, Management, Sub-Saharan Africa

INTRODUCTION

Nasosinus mucoceles are pseudo-cystic expansive formations of the sinuses of the face formed by chronic retention of mucus in a sinus cavity due to ostial obstruction. They can erode the bone walls and extend beyond the affected sinus cavity to cause ophthalmic complications and facial deformities.[1] The frontoethmoidal or frontal forms are the most frequent.[2,3] Clinical symptoms include: headache, nasal obstruction, tearing, rhinitis, diplopia, exophthalmos, decreased visual acuity. The topography of these clinical signs varies depending on the location of the affected sinus.[4] Diagnosis of sinus mucocele is guided by clinical symptoms and medical imaging, in particular CT scan or magnetic resonance imaging (MRI), then confirmed by anatomy pathology.[3,5] The treatment of mucocele is surgical with a transoral or endonasal approach under endoscopic guidance.[6] Endoscopic marsupialization is the reference treatment.[4]

The aim of the study was to report the epidemiology and describe the management of nasosinus mucoceles at the ENT and head and neck surgery department of the Donka University Hospital.

METHODS

This was a descriptive study of retrospective data collection. It was conducted over ten years (from 01 January 2008 to 01 January 2018) at the department of otolaryngology and head and neck surgery of Donka University Hospital. We included all complete records of nasosinus mucoceles that received management. We excluded all incomplete records. Sampling was echaustive. The data were collected from the collection media. They were recorded and analyzed using SPSS version 20 software. The following parameters were studied: epidemiology, management (diagnosis and treatment) and evolutionary consequences. We obtained approval from the ethics committee of the Donka National Hospital. The patients' anonymity and medical confidentiality were preserved.

The results were used for purely scientific purposes.

RESULTS

Over 10 years, we have listed 13 cases of nasal mucoceles, an incidence of 1.3 cases per year. The age group of 50 to 60 years was the most affected (38.5%). The average age was 39.7±16.7 years with extremes of 10 to 60 years and the sex ratio was 0.6 (Table 1).

The antecedent were the surgical cure of mucocele (23.1%), sinusitis (7.6%) and rhinitis (7.6%). The average consultation time was 4.3 weeks and 7 patients consulted after 2 months (Table 2). Headaches (92.3%) and facial swelling (76.9%) have been reported. The location of the swelling (Figure 1) was frontoorbital (23.0%), orbital/exophthalmos (15.3%), maxillofacial (7.6%) and frontal (7.6%). The endonasal component of the mucocele accounted for 46.1%.

In our series, CT scan was performed in all patients (Figure 2). According to the topography of the mucocele (Table 3), we noted the fronto-ethmoidal form (53.8%). Anatomy pathology confirmed the diagnosis of mucocele in all patients (100%).

Therapeutically, the approach via the paralateral nasal route represented (46.1%) followed by marsupialization via the endonasal route (23.0%). The combined approach was used in 43.7% of cases (Figure 3 and 4). Post-operative care consisted of antibiotic (100%), analgesic (100%), anti-inflammatory (86%) and nasopharyngeal disinfectant (95%).

The postoperative course was simple in all patients (Figure 5). Lethality was zero.

Table 1: Distribution of cases by demographics.

Demographics	N=13	%
Age range (years)		
10-19	2	13.4
20-29	3	23.1
30-39	2	15.4
40-49	1	7.7
50-60	5	38.5
Sex		
Men	5	38.5
Women	8	61.5

Table 2: Distribution of patients according to the time of consultation.

Consultation time (months)	N=13	%
<01	1	7.7
1 to 2	5	38.5
>02	7	53.8
Total	13	100

Table 3: Distribution of patients according to the topography of nasosinus mucoceles.

Topography	N=13	%
Frontoethmoidal	7	53.8
Ethmoidal	2	15.4
Frontal	2	15.4
Maxilla	2	15.4
Total	13	100

Figure 1: Patient admitted with a left fronto-orbital mass.

Figure 2: CT scan of the facial mass showing an isodense shell image with breathlessness of the bone with left frontal onset extending to the orbit and endocranium.

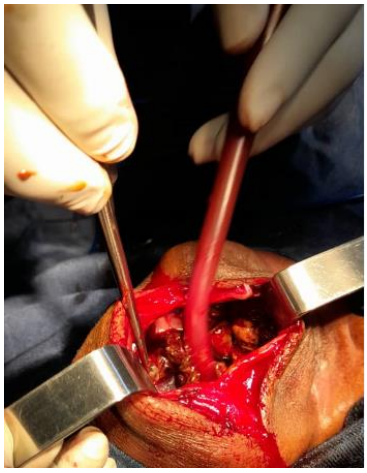

Figure 3: Mucocele removal and marsupialization.

Figure 4: Patient reviewed on the tenth postoperative day with the naso-frontal drain functional.

Figure 5: Patient reviewed on the twentieth post-operative day after removal of the drain.

DISCUSSION

The main limitation of this series was the lack of multidisciplinary collaboration in the management of patients. Nasosinus mucocele remains a rare condition.[7] Our series shows a low incidence (13 cases/year). Kouassi-Ndjeundo et al in Ivory Coast, found 1.5 cases per year.[8] In Tunisia, the team of Achour et al listed 2.5 cases per year.[9] Our figures corroborate the literature data.[7] The evaluation of its real frequency is confronted with access to imaging, but also with the ignorance of mucoceles in the latency phase. Our average age (39.7 years) is similar to those of Aderdour et al, Bassi et al and Kouassi-Ndjeundo et al.[5,8,10] However, mucoceles can occur at any age but rarely before adolescence.[10] Ostial obstruction and chronic inflammation are more commonly accepted factors in the genesis of mucoceles. The insidious evolution of the disease could explain the relatively adult age.[11] We made the same observation with Kouassi-Ndjeundo et al in relation to female predominance.[8] On the other hand, Achour et al noted a sex ratio (1.1) in favor of men.[9] The exposure of women to polluting agents according to their daily activity would certainly explain our observation.

The antecedent concerned chronic rhinosinusitis and trauma, particularly iatrogenic. The same observation was made by the teams of Aderdour et al and Kouassi-Ndjeundo et al in their different series.[5,8] Our long delay in consultation (4.3 weeks) is explained by the absence of a febrile context and the progressive installation of nasosinus mucoceles. The symptomatology was quite classic, dominated by headaches (92.3%) and frontoethmoidal swelling (53.8%). Aderdour et al and Kouassi-Ndjeundo et al found mostly the same signs.[5,8] According to the topography of the mucocele, we found the predominance of the frontoethmoidal form (53.8%). Aderdour et al and Bassi et al listed respectively 75% and 76.1% of frontoethmoidal mucocele.[5,10] The frequency of frontoethmoidal locations is justified by the complexity of the drainage routes of the anterior frontoethmoidal sinuses, by their great anatomical variability, their exposure to obstructive phenomena due to inflammation and accidental or operative trauma. Nasal endoscopy revealed an endonasal component of the mucocele in 46.1%. However, in Aderdour's series, the endonasal component represented 60%.[5] These figures report the possibility of endonasal expression of mucoceles.

Imaging plays a major role in the diagnosis and even in the management of mucoceles.[12] In our series, computed tomography of the sinuses found locoregional endoorbital extension in 12 cases (75%). It allowed us to assess the pre-therapeutic lesion. Magnetic resonance imaging (MRI) could not be performed because of its high cost for patients and its inaccessibility to everyone. However, MRI, which is not systematic, makes it possible to better assess endocranial and orbital extension and to distinguish mucocele from the sinus retention process that accompanies it.[13] The diagnosis was confirmed by anatomy pathology. We agree with Hariga et al who specified that the therapeutic strategy for mucoceles essentially depends on the location and extent of the lesions, determined by the imaging data.[13] For this purpose, there are essentially two main approaches: the external approach and the endoscopic approach.[13] The external approach was the most practiced in our series, in particular the paralateral nasal approach (46.1%) followed

by the combined approach (30.7%) and marsupialization by the endonasal approach (23. 0%). On the other hand, Aderdour et al opted for endoscopic surgery in 9 patients and by the combined route in 7 patients.[5] The insufficiency of the technical platform in endoscopic surgery and the limit of this endoscopic technique in some patients explains our choice for the external approach. However, we are witnessing considerable progress in endonasal surgery in the management of nasosinus pathologies, particularly chronic rhinosinusitis.[13] Postoperative care was rigorous in order to maintain the opening of the marsupialization of the sinus cavities in the nasal fossae and to avoid superinfection. This same process was applied by Bassi et al and Aderdour et al.[5,10] The post-operative course was simple with zero morbidity and mortality. However, recurrences can occur, as was the case in the series by Aderdour et al which had 2 cases of recurrence with an average follow-up of 3 years and 10 months.[5]

CONCLUSION

In 10 years, we have listed a low incidence of nasosinus mucoceles in our series. The symptomatology was fairly standard. Imaging and anatomy pathology established the diagnosis. However, endonasal surgery has become essential in the management. Simple postoperative follow-up would be linked to the experience of the surgeon, the severity of the lesions and the proper conduct of post-operative care. Improving the endoscopic technical platform in our regions would be of great interest in the management of nasosinus pathologies.

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