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Original Research Article

Management of tympanic retraction pockets: case of Mali

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ABSTRACT

Background: This study aims to study the epidemiological and therapeutic aspects of tympanic retraction pockets in the ENT-CCF department of the CHU GT.
Method: This was a descriptive prospective study.
Results: A total of 9400 patients consulted during the study period. A retraction pocket was diagnosed in 70 patients, i.e., 0.74% of all consultations. The most represented age group was that of [25-39 years]. The average age was 45.71 years. The extremes of ages were 10 years and 81 years. The female gender was the most represented, i.e., 60% with a sex ratio=0.67. CT of the petrous bone was performed in two patients. Medical treatment based on systemic corticosteroids and nasal decongestant was initiated in all our patients associated with quarterly monitoring for stage I charachon. The placement of a tympanostomy tube was performed in 8 patients classified (stage II of charachon). Cartilaginous tympanoplasty was performed in one patient, antroatticotomy associated with reinforcement tympanoplasty was performed in one patient (1.43%).
Conclusions: The pockets of tympanic retraction constitute a particular nosological entity which deserves rigorous monitoring. The ENT surgeon will be faced with two major challenges: the erosion of the ossicular chain and their potential risk of progression towards cholesteatoma. The diversity of therapeutic options represents an issue that makes this entity a hot topic.

Keywords: Retraction pocket, Cholesteatoma, Reinforcement tympanoplasty

INTRODUCTION

The retraction pocket is defined as an area of the tympanic membrane, disarmed of its conjunctive armature and which lies in a plane more medial than that of the eardrum, that is to say the retraction towards the body.[1] These pockets are an essential factor involved in the pathophysiology of cholesteatoma formation.[2] The therapeutic attitude in front of a retraction pocket is disparate.[1-4] Several classifications have made it possible to evaluate the evolutionary stage of the disease, including those of the charachon.[2-6]

Classification of Charachon (1988)

At the level of the pars flaccida: Stage I: Mobile pouch, detachable by the Valsalva and controllable; Stage II: Pocket fixed, non-detachable and controllable; Stage III: Pocket fixed and uncontrollable regardless of the importance of the size of the spontaneous atticotomy.

At the level of the pars tensa: Stage I: Pocket mobile, peelable even if it still adheres to the BDE and controllable; Stage II: Fixed, non-detachable pocket molding the incudostapedial joint and eroding the BDE; Stage III: Pouch fixed but uncontrollable, engaging towards the retrotympanum.

This study aims to study the epidemiological and therapeutic aspects of tympanic retraction pockets in the ENT-CCF department of the CHU GT.

METHODS

Our study took place at the CHU Gabriel Toure in Bamako. This was a prospective longitudinal study extended over 24 months; from February 1, 2020 to February 1, 2022 from the files of patients received as an outpatient in the ENT and Cervicofacial Surgery department of the CHU Gabriel Touré in Bamako. Were included any patient received in external consultation in the service of otorhinolaryngology and cervicofacial surgery of the CHU Gabriel Touré of Bamako presenting a pocket of tympanic retraction and having consented to the study. Data collection was done using a previously established survey form. Data were entered in Word 2016 and analyzed using SPSS software. It was a purely scientific work which aims to improve the management of pockets of tympanic retractions, anonymity is strictly respected.

RESULTS

A total of 9400 patients consulted in the ENT department during the study period. A retraction pocket was diagnosed in 70 patients, or 0.74% of all consultations. The most represented age group was that of (25-39 years). The average age was 45.71 years. The extremes of ages were 10 years and 81 years. The female gender was the most represented, i.e., 60% with a sex ratio=0.67. CT of the petrous bone was performed in two patients, and revealed erosion of the wall of the cubicle associated with tissue hypodensity at the level of the attic and erosion of the descending branch of the incus (Figure 1).

Medical treatment based on systemic corticosteroids and nasal decongestant was initiated in all our patients, associated with quarterly monitoring for stage I charachon (Figure 2 and 3).

The placement of a tympanostomy tube was performed in 8 classified patients (charachon stage II). Cartilaginous tympanoplasty was performed in one patient (Figure 4), antroatticotomy associated with reinforcement tympanoplasty was performed in one patient (1.43%).

Table 1: Breakdown by age.

Age of patients (Years)	Effective	Percentage (%)
10-24	12	17.14
25-39	**19**	27.14
40-54	14	20
55-69	13	18.57
70-84	12	17.14
Total	70	100

Table 2: Breakdown by gender.

Patient gender	Workforce	Percentage (%)
Male	28	40
Female	42	60
Total	70	100

Table 3: Breakdown by type of surgery.

Surgical treatment	Effective	Percentage (%)
ATT pose	8	11.43
Antroatticotomy + tympanoplasty	1	1.43
Reinforcement tympanoplasty	1	1.43
Total	10	14.29

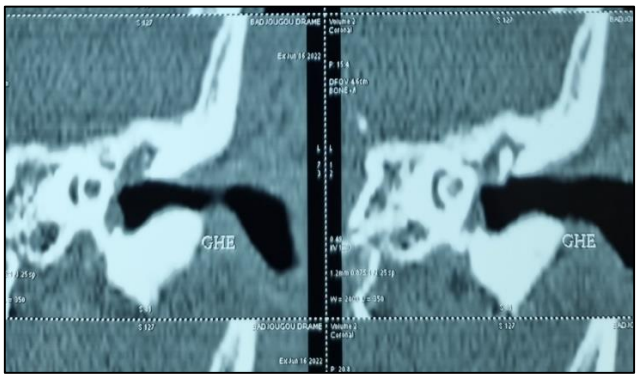

Figure 1: Coronal CT section: meso and epitympanic filling with lysis of the descending branch of inclum.

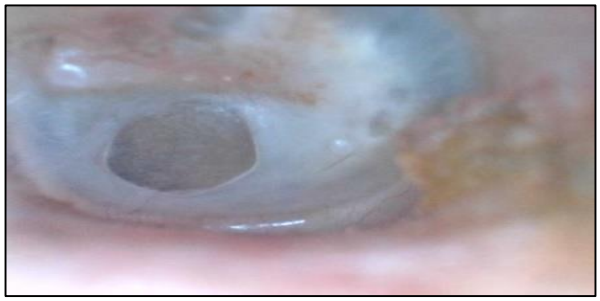

Figure 2: PDR of the pars tensa+ tympanosclerotic plaque.

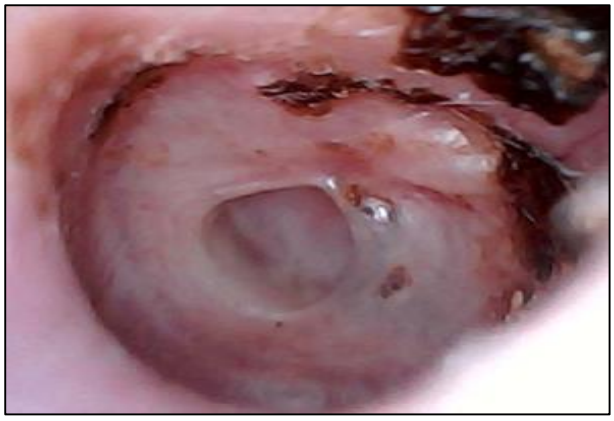

Figure 3: PDR warm-up push.

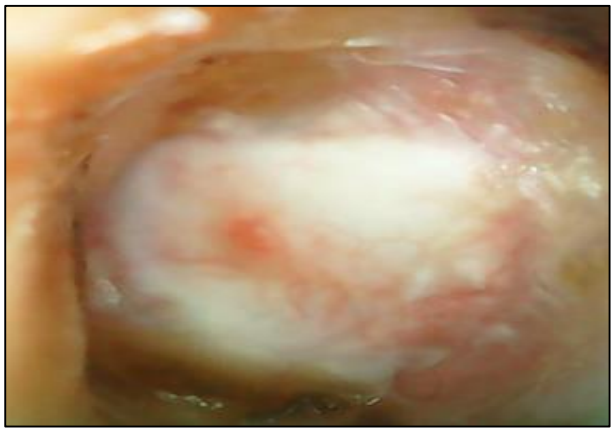

Figure 4: Operated retraction pocket: cartilaginous tympanoplasty.

DISCUSSION

Epidemiological data

Frequency

Retraction pockets are most often asymptomatic, therefore the exact estimate of their prevalence within a given population is difficult.[7] The figures obtained in this study in terms of prevalence were discovered by chance during a systematic ENT examination during consultations in the department. Thus, we found a prevalence of PDR of 0.74% of all consultations.

Age

Retraction pockets are especially common in children and young adults.[5-7] In accordance with these data, we found an average age of 45.71 years, especially since our sample excluded those under 10 years old.

Sex

Studies have shown that pockets of retraction frequently develop in children in connection with episodes of the nasopharynx and hypertrophy of the adenoids, which are most often responsible for tubal dysfunction resulting in negative pressure in the chest.[8] On the other hand, there is no notion of sex predilection and the distribution of the disease according to sex varies according to the studies.[7]

In our study, the female sex was the most represented, i.e., 63.9% and a sex ratio of 0.67.

Therapeutic modalities

Several therapeutic modalities have been described by the authors.[2,3,6,8,9,10] depending on the evolutionary stage of the pouch. Thus, for pockets classified as stage I weevil: simple monitoring may suffice. For asymptomatic stage II, medical treatments aimed at repairing the Eustachian tube are proposed, alone or associated with the installation of a tympanostomy tube. For symptomatic stage II, a reinforcement tympanoplasty associated with the placement of a transtympanic ventilator is proposed. For small pockets, some authors suggest excision of adhesions and placement of a sheet of silastic under the tympanomeatal flap. For pockets classified as stage III, the indication for a cartilaginous tympanoplasty of reinforcement is formal, it can be associated with an antroatticotomy or even a mastoatticotomy. In the event of lysis of the ossicular chain, the various techniques for restoring the columellar effect may be indicated, ranging from partial PORP prostheses to total TORP prostheses or, in the opposite case, to the interposition of a cartilage fragment when the superstructure of the stapes allows.[8] The concept of preventive tympanoplasty proposed by Chiossone in the 1995s seems to be debated.[9] It corresponds to the practice of a tympanoplasty on a pocket of retraction without auditory repercussions but having an evolutionary potential towards cholesteatoma.[11] In this case, it would be important to carefully weigh the risk-benefit ratio before performing the surgery. However, surgery should be indicated in case of retraction pocket whose bottom is not visible, in case of intermittent or persistent otorrhea on retraction pocket and in case of obvious accumulation of keratin.[3,7,8,9,11] In our study, drug treatment associated with monitoring were the therapeutic methods adopted in 58.3%. The establishment of an ATT was performed in 7 patients to slow down the evolution of the pocket and compensate for the negative pressure of the box. We performed a cartilaginous tympanoplasty in one patient and an antroatticotomy was performed in view of the signs of erosion of the cubicle wall associated with tissue hypodensity in the attic.

This study presented a number of limitations: The reduction in outpatient consultations due to the COVID-19 pandemic and the multiple strikes by nursing staff. Some patients no longer remembered the start date of their symptoms. The surgery could not be performed in some of our patients due to the low economic level and a lack of health insurance coverage.

CONCLUSION

The pockets of tympanic retraction constitute a particular nosological entity which deserves rigorous monitoring. The ENT surgeon will be confronted with two major challenges: the erosion of the ossicular chain and their potential risk of progression towards cholesteatoma. The diversity of therapeutic options represents an issue that makes this entity a hot topic.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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