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Unusual Cause of Oral Obstruction: The Antrochoanal Polyp

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Abstract | **Case Report**

Antrochoanal polyp (ACP) is a benign unilateral polyp that originates from the maxillary sinus and extends through the accessory or natural ostia into the nasal cavity and choanae. Its etiopathogenesis is still poorly understood. The clinical presentation is dominated by nasal obstruction and rhinorrhea, but in severe cases dysphagia, epistaxis or dyspnea may also be present. Diagnosis is mainly clinical, supported by computed tomography (CT) scan, and treatment is mainly based on endoscopic surgery. We report a case of Killian's polyp in a 17-year-old boy revealed by dysphagia and we study the clinical, paraclinical, anatomopathological characteristics, therapeutic management and evolutionary profile of the antrochoanal polyp.

Keywords: Antrochoanal Polyp, Dysphagia, Oral Obstruction.

I. INTRODUCTION

The antrochoanal polyp (ACP) or Killian's polyp is a benign sinonasal tumor that arises within the mucous membrane of the maxillary sinus and passes through maxillary ostium to the nasal cavity then towards the nasopharynx. Its ethiopathogenesis is not yet fully known. The diagnosis is clinico-radiological based on nasal endoscopy and facial computed tomography. The clinical presentation is nonspecific and sometimes misleading. It is mainly dominated by nasal obstruction and rhinorrhea. Its revelation by dysphagia is a rare but not exceptional situation.

We report in this work the case of a polyp of Killian revealed by dysphagia in a 17-year-old boy. The tumor was completely removed. Histological examination established the diagnosis.

II. CASE REPORT

A 17-year-old boy with no medical or surgical history presented to our department for dysphagia associated with left nasal obstruction evolving for 2 months without any other associated signs. Clinical examination of oral cavity revealed a bluish-red polypoid mass obstructing the oropharynx and filling the posterior part of the oral cavity; its point of origin was difficult to identify (Figure1). Endoscopy of the nasal cavities showed a polyploid mass originating from the left middle nasal meatus extending backwards and filling the rhinopharynx.

The facial computed tomography showed the image of a soft tissue masse that entirely fills the maxillary sinus and passes, without bone destruction, through its ostium to the nasal fossa, progressing posteriorly to reach the choana, the nasopharynx, and the oropharynx.

The patient underwent a complete excision of the polyp under general anesthesia and via an endonasal endoscopic approach with middle meato-antrostomy. Given the large size of the polyp, it was extracted through the oral cavity (Figure 4). No intraoperative or postoperative complications were reported. Histologically, the antral part of ACP demonstrates a central cystic cavity surrounded by a homogeneous edematous stroma with few cells and the intranasal portion of the polyp was covered with a respiratory epithelium with reactive fibrosis. The post-operative follow-up by endonsal endoscopy showed no recurrence after 6 months.

Fig. 1: Clinical aspect of the oropharyngeal part of the polyp

Fig. 2: Axial CT scan shows a low-attenuation soft tissue mass filling the whole left maxillary sinus and growing posteriorly to reach the choana

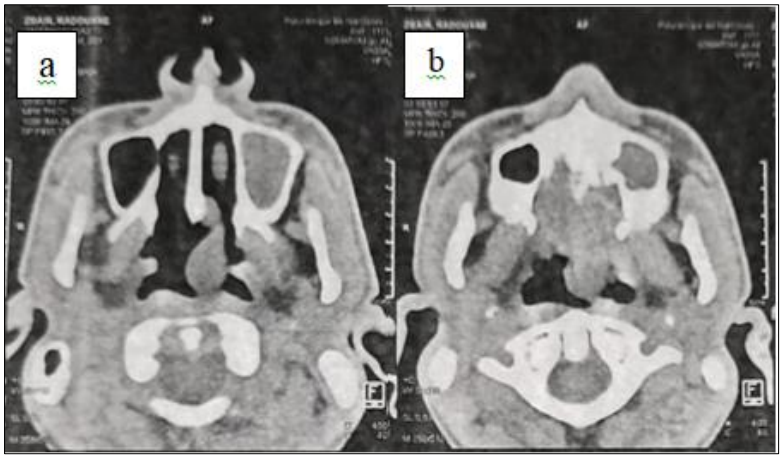

Fig. 3: Axial CT scan shows the extension of the polyp to the nasopharynx (a), then to the oropharynx (b)

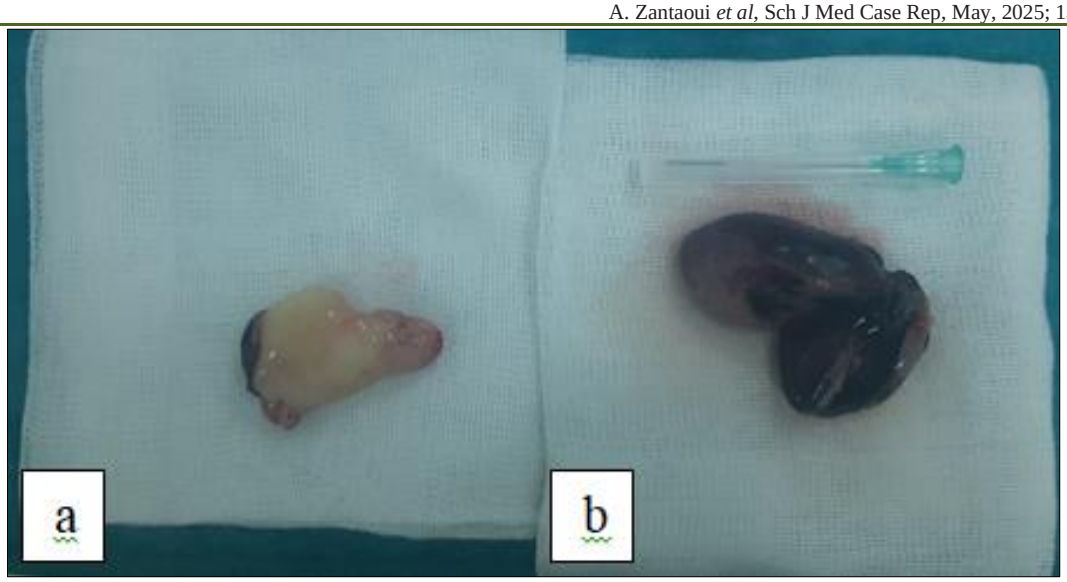

Fig. 4: The image of the antrochoanal polyp after resection: antral portion (a), choanal and oropharyngeal portion (b)

III. DISCUSSION

The antrochoanal polyp or Killian's polyp, first described by Killian [1], is a benign polyploid tumor with a double antochoanal contingent. It accounts for 2-4% of all nasal polyps. It is more common in children and young adults. Its etiopathogenesis remains imperfectly explained [2]. Several theories have been described in the literature: allergic, inflammatory, infectious and dental [2-4]. It originates in the mucous membrane of the maxillary sinus then is externalized in the nasal fossa by crossing the main ostium or sinus accessory. Tumor growth can occur towards the choanae, thus exiting at the level of the nasopharynx or even at the level of the oropharynx, which explains its dumb bell-shaped aspect [6]. Clinical symptoms are dominated by nasal obstruction, often unilateral, rarely bilateral [7], followed by rhinorrhea. Symptoms may be simple and atypical, sometimes presenting with dysphagia [8], sleep apnea or even dyspnea [9], association with epistaxis [10], or even general deterioration. Macroscopically, the polyp of Killian is classically described as a pale, translucent polyploid formation lying on the floor of the nasal cavity and emerging from the middle meatus. Reorganisation of the polyp is possible, leading to be confusion with other sinonasal tumors [11]. Facial computed tomography is the first-line investigation for Killian's polyp. It shows a hypoattenuating unilateral soft tissue mass completely occupying the maxillary sinus. It extends through the accessory maxillary ostium into the nasal cavity, medial to the inferior turbinate with progression towards the nasopharynx. Less commonly, the polyp extends anteriorly to the middle turbinate and the inferior turbinate region [12]. CT scan helps to exclude other differential diagnoses and to evaluate endonasal surgical difficulties [13, 14]. Facial MRI, indicated in atypical forms, shows a mass that is hypointense in T1 and hyperintense in T2. With gadolinium administration, the cystic part of the polyp is peripherally enhanced [15].

The treatment of Killian's polyp is essentially based on surgery. The endonasal endoscopic technique is the most adopted by the majority of authors associated with a middle meatotomy allowing total excision and direct control of the tumor. Other surgical techniques can be proposed, in particular the vestibular technique of Caldwell-Luc and mini-Caldwell-Luc. They are used as a complement to endonasal endoscopic surgery to allow good access to the origin of the polyp with satisfactory visual control. The mini-Caldwell-Luc essentially finds its place in the event of implantation of the polyp at levels difficult to reach by endoscopic surgery or in the event of resumption of a recurrence after this same surgery [16-18]. However, these techniques can expose the patient to complications during the development of teeth in the pediatric population on the one hand, and on the other hand to long-term craniofacial pain [19].

The recurrence rate varies according to the surgical technique. It is significantly high in the case of a simple polypectomy. Caldwell-Luc is associated with a low rate of recurrence, but its adverse effects limit its use, especially in children. As for the endoscopic route, the importance of recurrence is still disputed in the literature [20, 21].

IV. CONCLUSION

The antraochoanal polyp (ACP) is a sinonasal begnin tumor whose etiopathogenesis is still poorly elucidated. Dysphagia is a rare symptom of antrochoanal polyp but can be a revelatory symptom as in our case. Nasal cavity endoscopy and CT scann should be performed on any tumour filling the oropharynx before biopsy to look for the ACP. Its treatment is exclusively surgical. The advent of endoscopic surgery has made it possible to avoid conventional techniques. The mini Caldwell-Luc technique can be proposed in case of insufficient surgery or in case of tumor recurrence.

A better knowledge of its etiopathogenesis in the future would make it possible to develop new therapeutic and preventive approaches.

V. DECLARATION

Author Contributions:

The first draft of the manuscript was written by AZ and AR all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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Declarations

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Ethics Approval and Consent to Participate Informed consent was obtained from all individual participants included in the study.

Consent to Publish: The authors affirm that human research participants provided informed consent for publication of the images in all Figures.

Informed Consent Written informed consent was obtained from all subjects (patients) in this study.

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