Antrochoanal Polyp: A Rare Differential Diagnosis of Adenoids

Raid M. Al-Ani (med.raed.alani2003@uoanbar.edu.iq)
University Of Anbar, College of Medicine, Department of Surgery/Otolaryngology
https://orcid.org/0000-0003-4263-9630

Case Report

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Abstract

Introduction: Antrochoanal polyps are more prevalent in children than adults. Unilateral nasal obstruction and rhinorrhea are usually the features of the unilateral antrochoanal polyps. Bilateral nasal obstruction is also a feature of antrochoanal polyp if it is large and obstruct both choana. Giant antrochoanal polyp is rarely reported in the literature and as a case reports.

Case Report: We reported a further case of giant left antrochoanal polyp in a 6-years-old boy presented with bilateral nasal obstruction, nasal and postnasal mucopurulent discharge, hypo-nasal speech, mouth breathing, snoring, and obstructive sleep apnea syndrome. These features are mostly consistent mostly with the diagnosis of the adenoids. Physical examination revealed a mass seen in the oropharynx behind the uvula. Further examination by nasal endoscopy, computerized tomography, and histopathological evaluation of the excised polyp have confirmed the diagnosis of an antrochoanal polyp.

Conclusion: Although this entity is rarely seen in daily clinical practice, great care is needed to catch the diagnosis for early treatment to avoid unwanted complications.

Introduction

Antrochoanal or Killian's polyps are benign, non-atopic masses that arise from the maxillary antrum, through their natural or accessory Ostia and passes through the nose to the choana and may reach the nasopharynx (1). The majority of these polyps are small in size with a silent clinical course and usually detected as incidental lesions (2). However, giant antrochoanal polyp is rarely seen in the daily Otolaryngology practice. Antrochoanal polyp comprises 3-6% of nasal polyps in adulthood and 28% in the pediatric population, with an incidence rate of 1 to 2 per 10000. Despite antrochoanal polyp is usually unilateral, bilateral polyps have also been reported in the literature (3). Unilateral nasal obstruction and rhinorrhea are the commonest presenting symptoms. We presented a case of large left antrochoanal polyp in a 6-years-old boy presented with respiratory and swallowing abnormalities.

Case Report

A 6-year–old boy presented to the Otolaryngology clinic at Al-Ramadi Teaching Hospital with bilateral nasal obstruction, nasal and post-nasal mucopurulent discharge, mouth breathing, hypo-nasal speech, snoring and obstructive sleep apnea syndrome one year ago. The condition was not resolved with many courses of antibiotics plus local decongestants. The patient general condition was normal before starting his problem. There was no history of allergic rhinitis or any atopic diseases. The history was highly suggestive of adenoid as the cause of the child's symptoms. Rigid endoscopic evaluation of the nose revealed a pale glistening mass in the left nasal cavity arising from the middle meatus and extending through the nose to the nasopharynx. Oropharyngeal examination revealed a swelling extending from the nasopharynx downward to the oropharynx pushing the soft palate forward and upward as shown in **Figure 1**.

Computerized tomography (CT) scan showed hypo-attenuated mass completely occupying the left maxillary sinus, extending to the nose and reaching the oropharynx through the nasopharynx (red astrix in **Figure 2** A and B).

Antrochoanal polyp was diagnosed. Under general anesthesia with orotracheal intubation, the oropharyngeal portion of the polyp was grasped and removed through the mouth by gentle traction under nasal endoscopic guidance as shown in **Figure 3**.

While the antral portion of the polyp (attached to the posterior wall of the maxillary sinus) was removed through middle meatal antrostomy. The left nasal cavity was packed by a Merocele pack. The excised specimens were sent for histopathlogical evaluation. The histopathological examination confirmed the diagnosis of the presenting case **Figure 4**. The pack was removed 24 hours following surgery. The condition was resolved following the excision of the polyp. The postoperative course passed smoothly without complications. As a 2 year follow-up, the child remained free of the presenting symptoms. Informed consent was taken from the patients' father to publish the presenting case in a scientific journal.

Discussion

It is well known that antrochoanal polyps occur mainly in the pediatric and young adult population (1)(4)(5). However, in a study by Lee et al. showed that about 40% of their patients were 30-65 years (6). Moreover, the prior study reported that antrochoanal polyps are presented at any age (7). Therefore, antrochoanal polyps may occur at any age.

Antrochoanal polyps in the pediatric population are usually presented at an advanced stage due to delayed diagnosis (6). In the presenting case, there was an elapsing time between the child’s symptoms and the diagnosis because the dealing doctors blamed the adenoids as a cause of the patient's problem. If the giant antrochoanal polyp associated with adenoids, the polyp instead to reach the usual passages (oropharynx and hypopharynx), it extends to another nasal cavity because the adenoids act as a barrier preventing the polyp from its natural pathway (8).

The usual presentation of the antrochoanal polyps is unilateral nasal obstruction and rhinorrhea. Other symptoms might be found in certain patients, such as epistaxis, smell hypo-function, and headache. However, bilateral nasal obstruction, mouth breathing, rhinorrhea, nasal speech, snoring, and obstructive sleep apnea syndrome are the features of bilateral and giant unilateral antrochoanal polyps. Besides, swallowing and plumy voice is cardinal symptoms of the giant polyp as they found in the current case. In reviewing the literature, several cases of the giant antrochoanal polyps were reported in different ages (9)(10)(11)(12)(13)(14)(15)(16)(17). Besides, Spadijer-Mirković et al. (18) reported two patients with giant antrochoanal polyps, one of them was a 15-year-old boy and the other was a 38-year-old male. The age of the presenting case was the youngest age of the previously reported cases of giant antrochoanal polyps. It is an interesting finding in these 12 reported cases (11 previous reported cases plus the

presenting case) that 10 cases were males and two cases were females (10)(15). This leads us to hypothesize that giant antrochoanal polyps occur mainly in males.

The gold standard techniques for the diagnosis of the antrochoanal polyps are endoscopic nasal examination and CT scan evaluation of the nose and paranasal sinuses. According to the CT features, the antrochoanal polyps are classified into 3 stages (19): stage 1 (the polyp extends to the nose), stage 2 (the polyp extends to the nasopharynx and maxillary ostium is occluded fully by polyp neck), and stage 3 similar to stage 2 but the maxillary ostium is partially occluded by polyp neck). The presenting case was in stage 3. Besides, it extends to the oropharynx resulting in severe respiratory and swallowing disorders.

The differential diagnosis of large antrochoanal polyp includes benign (adenoids, juvenile angiofibroma, teratoma, meningoencephalocele, chordoma, paraganglioma, and nasopharyngeal extension of a para-pharyngeal parotid tumor) and malignant diseases (carcinoma, lymphoma, and sarcoma) (10).

The main objective of the antrochoanal polyp treatment is complete excision of the polyp with a complete cleaning of the involved maxillary antrum (11). The endoscopic nasal approach and/or trans-canine approach is capable to achieve this aim. The choice of the approach depends on the attachment of the polyp to the maxillary antral walls. If the polyp arises from the lateral wall of the maxillary sinus, combined approaches are indicated because they give adequate access to remove the polyp in toto (5). While the endoscopic approach is enough to remove the polyp fully if the polyps arise from the other walls. The giant antrochoanal polyp of the presenting case was removed completely from its posterior wall attachment of the left maxillary sinus using the endoscopic approach. There were no postoperative complications.

Conclusion

We reported a further case of giant antrochoanal polyp in a young child boy. Great care in the clinical evaluation process is of utmost importance to detect the condition and treated early to avoid sinister complications.

Declarations

The author declares no competing interests.

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Figures

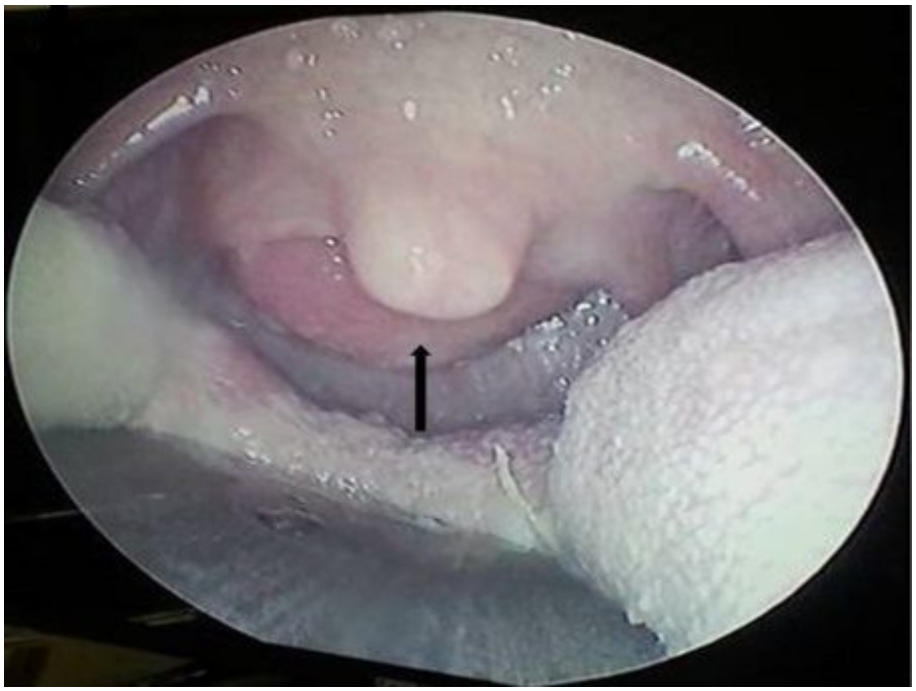

Figure 1

Endoscopic view of the oropharynx shows the polyp in the oropharynx pushing the uvula and soft palate forward and upward (black arrow).

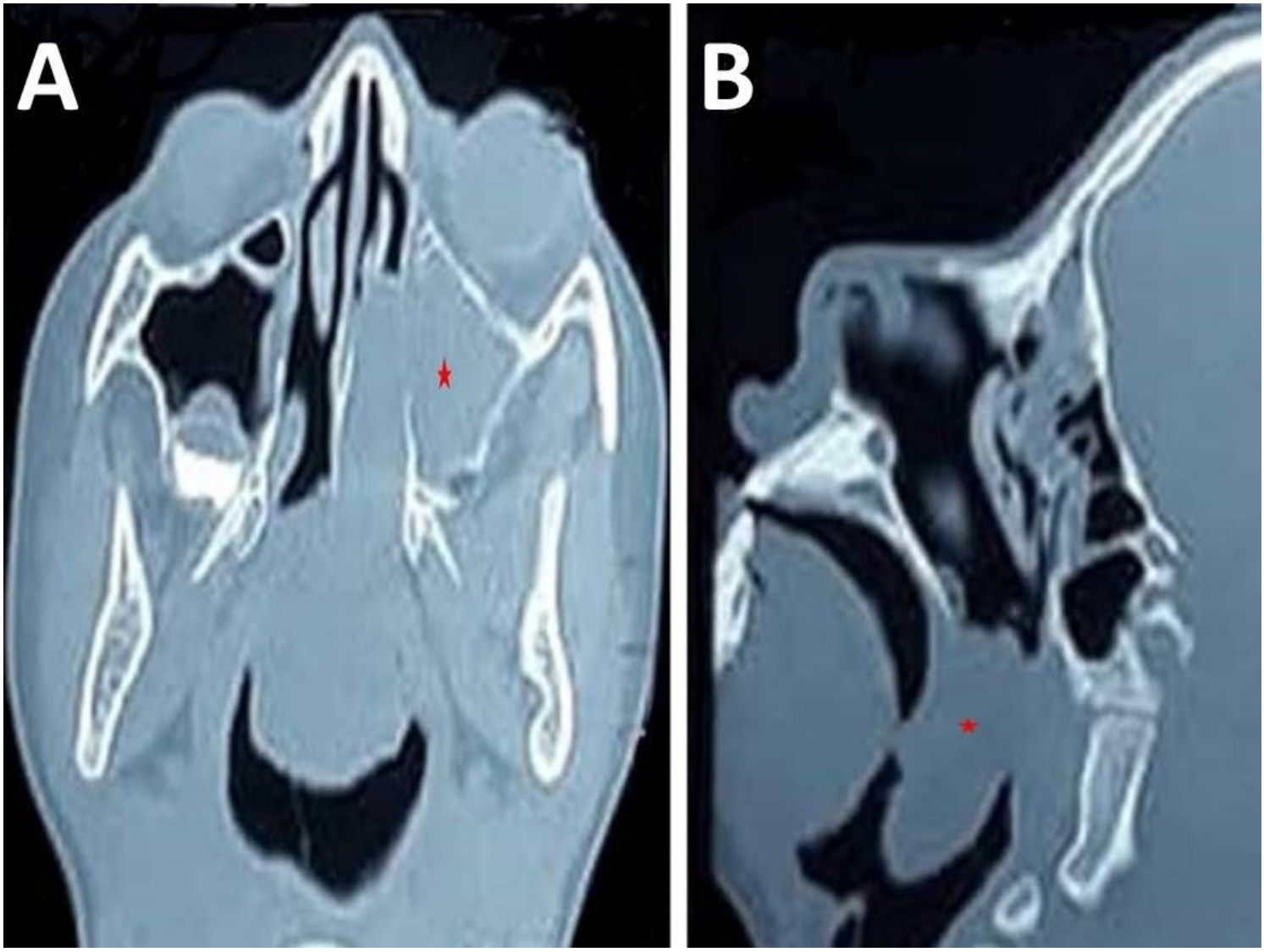

Figure 2

CT scan of the nose and paranasal sinuses. A: Axial view shows hypo-attenuating lesion (red astrix) occupying the left maxillary sinus and extending through the nose to the nasopharynx. B: Sagittal section revealed the hypo-attenuating lesion in the nasopharynx and oropharynx (red astrix).

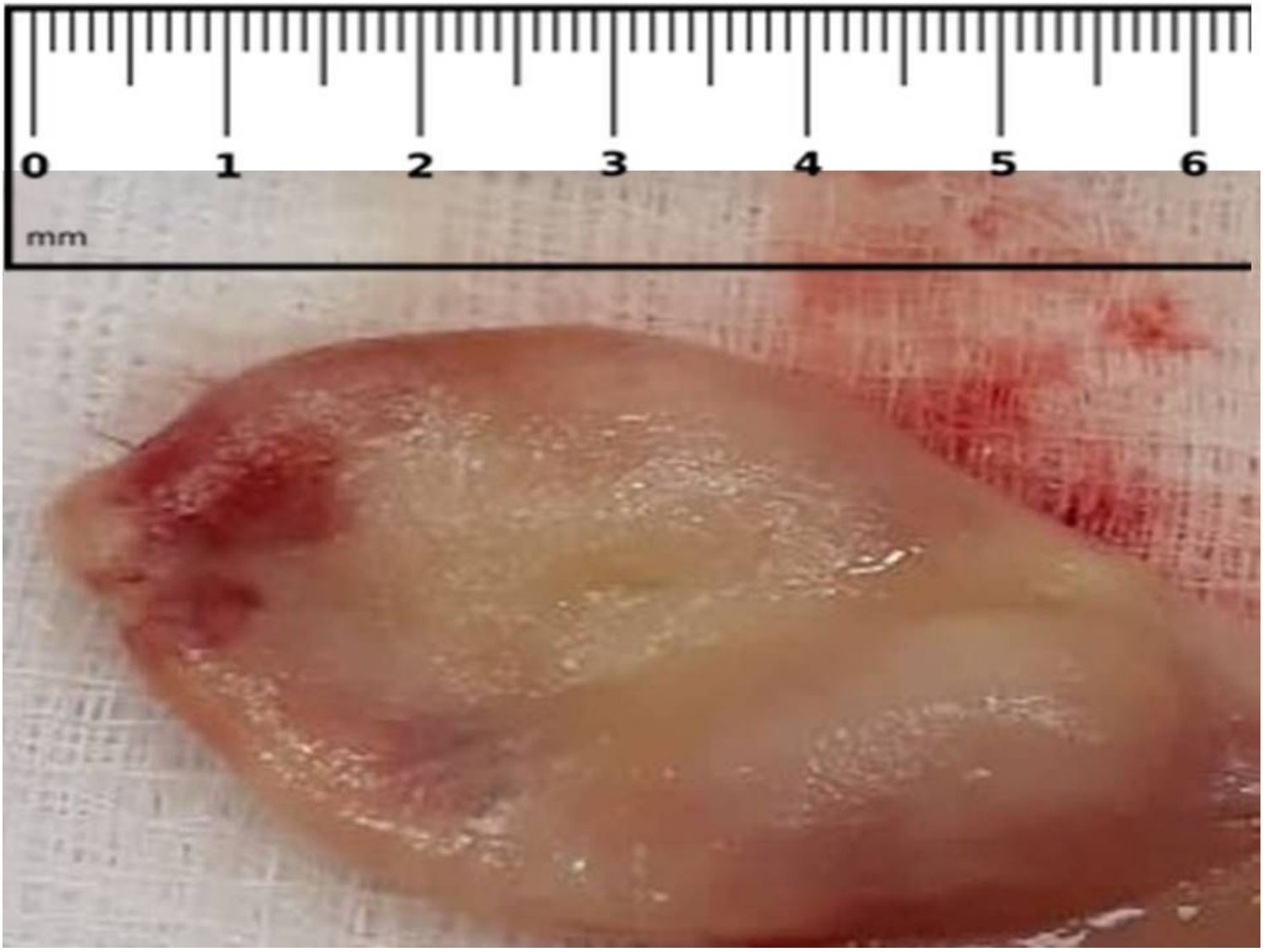

Figure 3

The excised choanal portion of the giant antrochoanal polyp.

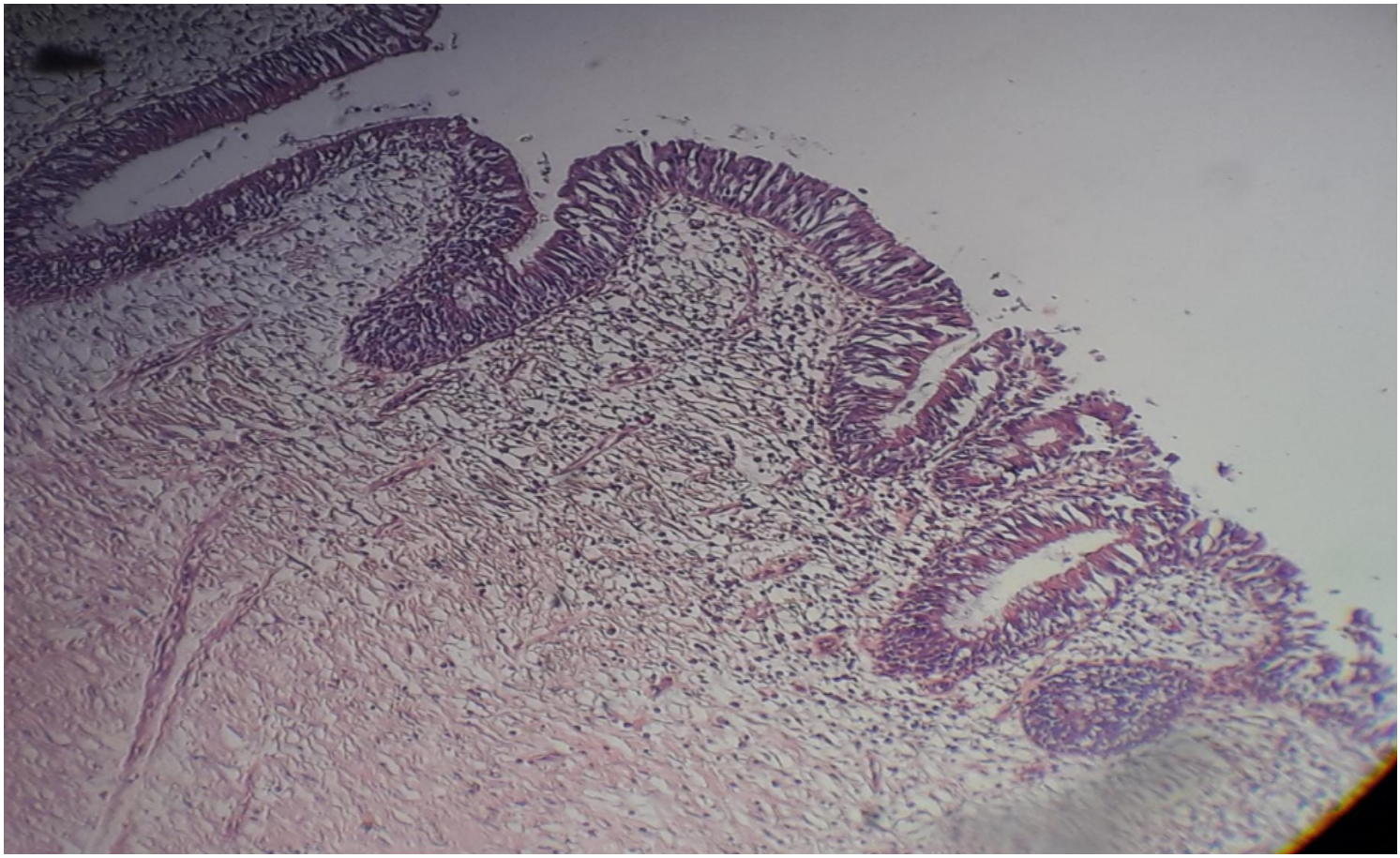

Figure 4

Polypoid lesion lined by respiratory epithelium overlying a highly vascular myxoid stroma (Hematoxylin and Eosin × 100).