



A Large Antrochoanal Polyp - Case Report and Example of an Anchoring Bias

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Abstract

Introduction: Antrochoanal polyps (ACP) are benign lesions originating in a maxillary sinus. Their most common symptoms are unilateral nasal obstruction, rhinorrhea and nasal bleeding. Nevertheless, a large mass in a nasal cavity causing dysphagia and weight loss may point to a cancerous diagnosis. In this report we present a case of a large antrochoanal polyp mistaken for a nasal carcinoma.

Case Report: A 52-year-old woman was admitted to the clinic because of a tumor in the left nasal cavity. Her symptoms were nasal obstruction, nasal bleeding and cachexia. On examination a fragile mass in the left nasal cavity was found which was confirmed by nasal endoscopy. The CT scan showed a hypo-attenuating mass filling the nasal cavity with a marginal bone destruction. Several biopsies did not allow for making a diagnosis. As a consequence, the patient was scheduled for an open biopsy through a lateral rhinotomy access. The histopathological report confirmed the diagnosis of ACP. Following surgery, the patient developed a wound infection and nasal bleeding what required tamponade and made her staying in a hospital longer.

Conclusion: A large unilateral nasal mass even with bone destruction and cachexia symptoms is not obviously of a cancerous origin. An algorithm of thorough assessment with PET scan, MRI and a gold standard procedure should always be performed. Assuming that this patient suffers from a nasal carcinoma is an example of an anchoring bias and a confirmation bias as well.

Keywords: Nasal polyps; Anchoring bias; Nasal sinuses

Introduction

Antrochoanal polyps are benign lesions originating in a mucous membrane of a maxillary sinus. Once they reach the natural sinus ostium they may protrude to the nasal meatus. Usually, the growth of antrochoanal polyps causes a destruction of a medial wall of a maxillary sinus. As a consequence, an additional ostium of a maxillary sinus develops and a polypoid mass may be found in a nasal cavity [1]. Most common symptoms are unilateral nasal obstruction, rhinorrhea, nasal bleeding, dyspnea, dysphagia, obstructive sleep apnea, nasal speech and even cachexia [2]. Antrochoanal polyps represent 4% to 6% of all nasal polyps and usually respond well to a surgical treatment [3]. Although benign, these lesions may sometimes be taken for malignant tumors due to their unusual presentation. In this report we present a case of an unusually large antrochoanal polyp which was mistaken for a nasal carcinoma. A false diagnosis despite findings suggesting an opposite and eventually leading to a different treatment plan is an example of an anchoring bias [4].

Case Presentation

A 52-year-old Caucasian woman was seen in a Maxillofacial Surgery Clinic of the National Institute of Oncology in Warsaw with a six-month history of a left-sided nasal obstruction. Other symptoms reported were rhinorrhea, odynophagia, nasal speech, left-sided headache and cachexia. Her past medical history was not significant for tobacco use. On examination with a nasal speculum a fragile soft-tissue large polypoid mass in the left nasal cavity was found. It was causing nasal septum deviation and an enlargement of a left nasal cavity. On pharyngoscopy it was noticed that the mass was hanging from the nasopharynx to the meso-pharynx level. Nasal endoscopy revealed a mass coming from the left nasal cavity passing to the nasopharynx and partially oropharynx (Figure 1). A computed tomography showed a large hypo-attenuating mass filling the left nasal cavity, left maxillary sinus, left frontal sinus and sphenoid sinus what is presented on Figure 2. A marginal bone destruction was seen but no regional metastases were noticed. Histopathological findings of several biopsies conducted during fiberoscopy revealed inflammatory cells and fibrosis. Subsequently,

OPEN ACCESS

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Received Date: 12 Jul 2023

Accepted Date: 03 Aug 2023

Published Date: 08 Aug 2023

Citation:

Stawarz K, Zwolinski J, Galazka A. A Large Antrochoanal Polyp - Case Report and Example of an Anchoring Bias. *Ann Clin Case Rep.* 2023; 8: 2448.

ISSN: 2474-1655.

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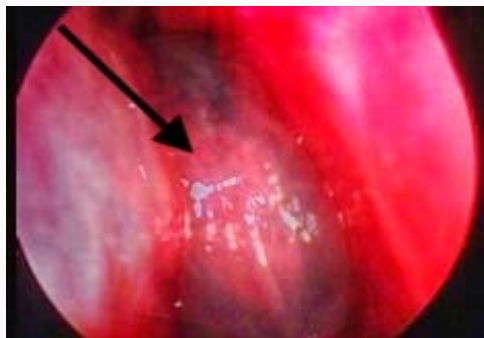


Figure 1: Endoscopic view of a large antrochoanal polyp. The black arrow points to the polypoid mass in a nasal cavity.

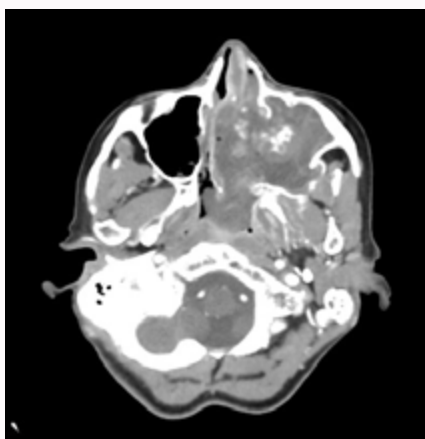


Figure 2: A large hypo-attenuating mass filling the left nasal cavity, left maxillary sinus, left frontal sinus and sphenoid sinus with marginal bone destruction.

the procedure of the open biopsy under general anesthesia was performed as the previous histopathological results were uncertain. Due to the strong suspicion of a cancerous diagnosis as well as the bone destruction displayed on CT scan, an access through a lateral rhinotomy was used. Once the intranasal component of the mass was removed, the contents of a maxillary sinus were excised through the sinus ostium. Following this, the nasopharyngeal portion of the mass was excised through the oral cavity access. Once a homeostasis was achieved, a nasal pack consisting of cotton gauze was placed in the nasal cavity and removed two days after the surgery. Histological results of a sample examined postoperatively supported the diagnosis of antrochoanal polyp instead of a nasal carcinoma. Four days after the procedure there was a wound infection as well as nasal bleeding occurred. The patient was given antibiotics and the bleeding stopped as the nasal tamponade was made. Subsequently, the patient was discharged home on the seventh day after the procedure without nasal packing and with antibiotic regimen to proceed with a couple of days after the discharge. Eventually, the patient's recovery was satisfactory as she experienced a relief of her nasal obstruction.

Discussion

Anchoring bias refers to physician tendency to prioritize medical findings that support their initial diagnosis although the first impression is wrong. Similarly, a confirmation bias occurs once a medical practitioner refuses to take alternative diagnoses into consideration when the first diagnosis is already made despite

contradicting data. The presented case is an example of an anchoring bias which led to the incorrect diagnosis and inappropriate treatment plan. The Functional Endoscopic Sinus Surgery (FESS) remains a gold standard procedure of nasal polyps and should have been considered as a first line treatment. Nevertheless, this patient underwent a lateral rhinotomy as the suspicion of a cancerous diagnosis was almost certain [5]. Some of the patient's symptoms such as one-sided nasal mass, nasal bleeding and cachexia caused by dysphagia were those incentives that resulted in performing an open biopsy instead of an endoscopic surgery at first. Although rare, nasal polyps may easily mimic cancerous nasal tumors especially when they are large. While characteristic for malignant tumors a marginal bone destruction is also common for ACP. In this case scenario in addition to the CT scan other investigations such as PET scan or MRI should have been performed. Those steps would have probably ruled out a cancerous origin of a tumor and would have pointed to a correct diagnosis.

Frosini et al. indicate that ACP may sometimes display pseudosarcomatous features and may lead to weight loss and cachexia. It should also be distinguished from other bone destroying tumors such as lymphoma, rhabdomyosarcoma or Wegener granulomatosis [6]. It seems that dealing with malignant tumors on a daily basis keeps the doctors alert but it can also rarely cause a false assumption. Steps must be taken to avoid this way of thinking as maintaining one's initial impression despite evidence pointing to a different disease increases a risk of unnecessary procedures and patient's complications as well. An algorithm of detailed physical exam followed by endoscopic exam and CT scan together with MRI or PET scan should be performed always when there is a suspicion of malignancy. In this case several non-diagnostic biopsies of the nasal tumor and the lack of PET scan or MRI due to the strong conviction of malignancy based on CT scan have eventually resulted in the open biopsy procedure although endoscopic surgery is the first line treatment. Scheduling this patient to the open biopsy procedure put her in the risk of suffering from serious complications such as bleeding, face deformation and wound infection as well. It appears obvious that if the above-mentioned tests had been conducted the patient health would have not been jeopardized.

Conclusion

While nasal polyps are quite common and benign findings, antrochoanal polyps account for only 4% to 6% of them. FESS remains a gold standard treatment of nasal polyps. However, bone destruction, nasal bleeding and cachexia caused by large masses in nasal cavities may suggest a cancerous origin of a tumor. A detailed assessment including physical exam, endoscopic exam and PET scan or at least MRI should be performed to dispel doubts about the origin of a tumor. Sticking to an initial diagnosis despite findings pointing to a different disease may lead to the unnecessary procedures associated with severe complications. Assuming that this patient suffers from a nasal carcinoma is an example of confirmation bias and anchoring bias as well.

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