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CASE REPORT

Massive Sinonasal Polyposis in an Elderly Patient: Report of a Case

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Abstract

We present the case of a 70-year-old female patient who sought consultation with an otolaryngologist due to a mass protruding from the left nasal cavity. The patient reported that she had noticed the mass for the past two months, although she had experienced nasal breathing difficulties for over ten years. Upon examination, a large pink mass was observed protruding from the left nostril. Anterior rhinoscopy revealed complete obstruction of both the left and right nasal cavities by the tumor mass. Computed tomography showed that the mass entirely filled both nasal cavities and all paranasal sinuses. Surgical treatment was performed, involving endoscopic sinus surgery, which resulted in the complete removal of the mass. Histopathological analysis confirmed that the mass was a case of massive sinonasal polyposis. At the six-month follow-up, no signs of recurrence were observed. Although sinonasal polyposis is a relatively common condition in rhinologic surgery, such pronounced polyposis with prolapse of polyps through the nostril is a rare presentation that can initially mimic benign or malignant tumors of the nasal cavities.

Keywords: **sinonasal polyposis, nasal cavity mass, endoscopic sinus surgery**

Masivna nosna polipoza kod osobe starije životne dobi: prikaz slučaja

Sažetak

Prikazujemo slučaj pacijentkinje starosti 70 godina koja se javila otorinolaringologu zbog mase koja je prominirala iz levog nosnog kavuma. Pacijentkinja je navela da masu primećuje unazad 2 meseca, dok tegobe sa disanjem na nos ima unazad više od 10 godina. Inspekcijom smo konstatovali veliku masu ružičaste boje koja prominira iz leve nozdrve. Prednjerinoskopski pregled ukazao je na potpunu opstrukciju levog i desnog nosnog kavuma tumorskom masom. Kompjuterizovana tomografija ukazala je na to da masa u potpunosti ispunjava oba nosna kavuma kao i sve paranazalne šupljine. Sprovedeno je hirurško lečenje- endoskopska sinus hirurgija, te je masa u potpunosti uklonjena. Histopatološkom analizom otkriveno je da se radi o masivnoj nosno-sinusnoj polipozi. Na šestomesečnoj kontroli nisu viđeni znakovi recidiva. Iako je nosno-sinusna polipoza relativno često stanje u rinohirurgiji, ovako izražena polipoza sa prolapsom polipozno izmenjenog tkiva kroz nozdrvu retko je stanje, koje klinički može inicijalno da liči i na benigne ili maligne tumore nosnih kavuma.

Klučne reči: **nosno-sinusna polipoza, masa u nosnoj šupljini, endoskopska sinus hirurgija**

Introduction

Nasal polyps are painless, soft, benign growths that arise from the ethmoid sinuses and affect both the nasal mucosa and the paranasal sinuses. Various factors contribute to the development and progression of nasal polyps, including genetic predispositions and anatomical abnormalities[1,2]. However, the inflammatory process is a critical factor in the pathogenesis of nasal polyposis[3]. Most patients with nasal polyposis exhibit a type 2 inflammation pattern, marked by eosinophilia and elevated levels of interleukin-4, interleukin-5, and

interleukin-13[4]. In chronic rhinitis, a Th 2 immune response in the lamina propria triggers molecular reactions that lead to the accumulation of immune cells, antibodies, and remodeling factors, resulting in sub-epithelial edema and the eventual formation of nasal polyps[1].

Nasal polyps present with nasal congestion, anosmia, nasal discharge, post-nasal drip, and, less frequently, facial pain. Small polyps might not produce symptoms but can be detected during a routine examination if they are located in front of the middle turbinate. The diagnosis is made after a rhinoscopy examination, an endoscopy if feasible, and a computerized tomography of the nose and paranasal sinuses. In most cases, an otolaryngologist can diagnose nasal polyposis based on clinical examination alone. Polyps typically present as translucent, grayish, or pink smooth masses[5]. The definitive diagnosis is established following histopathological examination of the removed polypoid masses. The management of sinonasal polyposis involves endoscopic sinus surgery (ESS) to excise the polyps and enable local corticosteroids to reach the sinus cavities. Additionally, allergen immunotherapy and novel biologic agents, monoclonal antibodies targeting the inflammatory pathway, may be considered as part of the treatment plan[6,7].

Even though polyps do not exhibit malignant features, a key characteristic of nasal polyps is their strong tendency to recur, despite appropriate surgical treatment of the nasal cavities[4].

Most patients seek help due to symptoms persisting for several months, such as reduced nasal breathing accompanied by hyposmia or anosmia, as well as headaches, while masses protruding from the nasal passages are relatively rarely observed in clinical practice.

Case presentation

We present the case of a 70-year-old female patient who sought consultation with an otolaryngologist due to a mass protruding from the left nasal cavity. The patient reported that she had noticed the mass for the past two months, although she had experienced nasal breathing difficulties for over ten years. Additionally, she reported a complete loss of the sense of smell and a partial loss of the sense of taste. She denied experiencing any epistaxis. The patient did not report any comorbidities, allergies, or previous surgeries in the nasal-sinus region. Upon examination, a large reddish mass was observed protruding from the left nostril. Anterior rhinoscopy revealed complete obstruction of both the left and right nasal cavities by the tumor mass, while posterior rhinoscopy indicated that the mass did not obstruct the nasopharynx. Computed tomography showed that the mass entirely filled both nasal cavities and all paranasal sinuses (Figure 1). Surgical treatment was performed (Figure 2), involving endoscopic sinus surgery, which resulted in the complete removal of the mass. The surgical and postoperative trajectory was uneventful. The nasal packing was removed on the third day after the surgery, and the patient was then discharged home. Histopathological analysis confirmed that the mass was a case of massive sinonasal polyposis. Local steroid therapy was advised. At the six-month follow-up, no signs of recurrence were observed.

Discussion

Chronic rhinosinusitis with nasal polyps is a prevalent inflammatory condition of the upper airways, impacting around 1–4% of people globally[8]. Elderly patients with chronic rhinosinusitis were also found to be more likely to present with polyps. Alterations in physiological functions associated with aging, such as dysfunction of the nasal epithelial barrier, may contribute to the occurrence and varying clinical manifestations of chronic rhinosinusitis with polyps in older adults[9]. Since nasal polyposis is more prevalent in the elderly, it's crucial to develop a specific understanding of diagnosis and management for this age group.

Sinonasal polyposis can greatly impact quality of life and overall health, with older adults potentially being more vulnerable to these adverse effects[10].

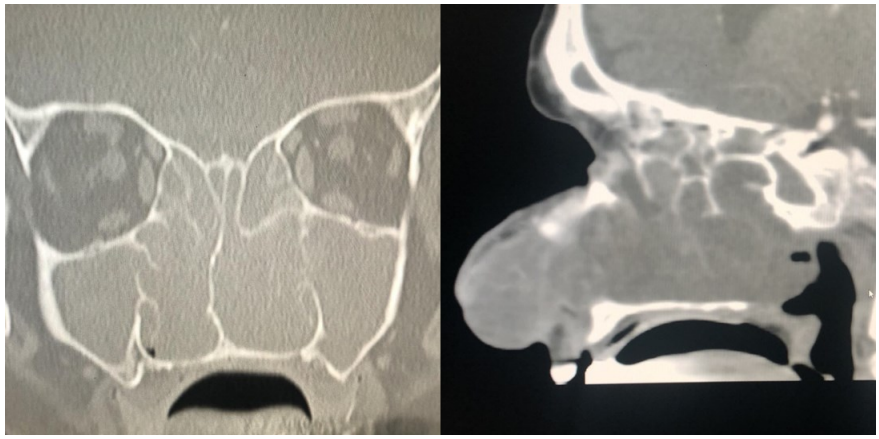

Figure 1. Contrast-enhanced computed tomography image of the nasal cavity and paranasal sinuses showing complete obliteration by polypoid masses.

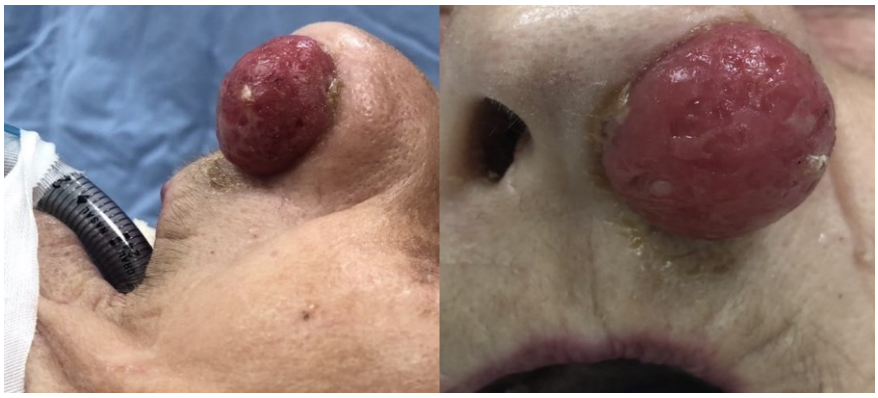

Figure 2. Preoperative appearance of the patient: a reddish mass protrudes from the left nostril.

Nasal obstruction leads to mouth breathing, which results in oral dryness; dysosmia or anosmia accompanied by taste disturbances; nasal speech; headaches; decreased attention; snoring; daytime drowsiness; and obstructive sleep apnea[11]. Also, it was found that patients with chronic rhinosinusitis and nasal polyposis reported more cognitive dysfunction[12]. Even though the patient did not report neurological symptoms, headaches, fatigue, or a feeling of weakness, it is likely that her quality of life was nonetheless significantly diminished due to the presence of a mass obstructing nasal breathing.

Although sinonasal polyposis is a relatively common condition in rhinologic surgery, such pronounced polyposis with prolapse of polyps through the nostril is a rare presentation that can initially mimic benign or malignant tumors of the nasal cavities. In our patient's case, the mass prolapsing from the left nostril did not clinically present as a polypoid mass. It was red and had an irregular mucosal surface. Although polyps are not inherently malignant, the macroscopic appearance of the mass in the left nasal cavity did not suggest nasal polyps. Conversely, the findings in the right nasal cavity were characteristic of nasal-sinus polyposis. Additionally, computerized tomography of the nose and paranasal sinuses did not indicate a malignant nature of the disease. It is important to emphasize that, while the classic presentation of nasal polyps on exam is pale grayish smooth masses in the nasal cavity, in elderly patients they may appear yellowish, translucent, or even erythematous, as shown in the presented case[10].

Treatment of nasal-sinus polyposis can begin with medication, including oral and topical corticosteroid therapy[1]. However, due to the extensive nature of the clinical findings, we opted for surgical removal of the nasal masses. Surgical

indications for the elderly are the same as for the general population, with consistently positive outcomes. Endoscopic sinus surgery (ESS) can be beneficial for older adults and may even show greater effectiveness in this age group[13]. Elderly patients often have more medical comorbidities, which could increase their surgical risk, but it is shown that they have experienced less blood loss compared to younger individuals. Research indicates that aging is associated with decreased blood flow to the nasal mucosa and lower levels of pro-inflammatory cytokines and chemokines in the nasal epithelium and submucosa. Additionally, reduced small vessel blood flow in older adults leads to less effective nasal heating and humidification. These factors likely contribute to lower blood loss[14]. As always, the potential risks of surgery should be weighed against the possible benefits for each individual patient.

Nasal polyposis notably affects the elderly, and its impact will become more pronounced as the proportion of people over 65 years increases. This patient group presents distinct challenges that need to be addressed when developing treatment strategies.

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