

**Nasopharyngeal polyp causing sensory disturbances: a case report**Abrar Majed Sabeh^{1,2}, Iffat Mirza Ahmed¹¹ Department of Oral and Maxillofacial Sciences, Al-Farabi Colleges, Jeddah, Saudi Arabia² New Jersey Dental School, University of Medicine and Dentistry of New Jersey, New Jersey, USA**Type of article:** Case report**Abstract**

Nasopharyngeal polyps are benign abnormal mucosal protrusions associated with nasal and pharyngeal mucosa. They are commonly found in all age groups with various symptoms. This paper presents a case of a 52-year-old male who presented with constant numbness over the dental midline and extending along the right side of the maxilla for the past few weeks. The patient also reported difficulty in breathing, especially lying down. After a comprehensive head and neck examination, including muscle palpation and temporomandibular joint examination, all within normal limits, a CNS lesion was suspected. A cranial nerve screening examination disclosed hyposensitivity in the area of teeth # 7 to 10. A panoramic radiograph demonstrated right sinus abnormality. We determined the need for additional diagnostic testing, including cone beam computed tomography, which showed a thickened sinus membrane with a polypoid structure (extending posterior from the right inferior concha into the oropharynx). The patient was referred to an ear, nose, and throat (ENT) specialist for further evaluation. The ENT diagnosis was a nasal polyp, and the patient was prescribed a steroid spray to be used three times daily. On follow-up, the patient's symptoms were reduced from constant numbness to intermittent "fading sensation" with no breathing difficulties lying down. Ancillary diagnostic testing, such as Cone Beam CT, is useful and may be required for the diagnosis of sensory disturbances in the Orofacial region.

Keywords: nasopharyngeal polyp, sensory disturbances**1. Introduction**

Nasopharyngeal polyps are benign abnormal mucosal protrusions associated with the nasal and pharyngeal mucosa. The etiology of a nasopharyngeal polyp is multifactorial and is mainly a result of adenotonsillar hypertrophy or inflammatory response of the lining mucosa (1). Non-neoplastic and neoplastic lesions of the nasal cavity, paranasal sinuses, and nasopharynx frequently are encountered in routine clinical practice (2). They are a common finding in all age groups. Such masses can arise from the nasopharynx, neuroectoderm, or nose and the paranasal sinuses and present as a mass in the nasopharynx. The most common presenting symptoms of nasopharyngeal lesions are nasal obstruction, mouth breathing, nasal discharge, epistaxis, facial swelling, orbital and ear symptoms (3, 4). Nasopharyngeal polyps appear as fluid-filled, semi-transparent, tear drop-like structures. The prevalence in the adult population is estimated to be around 1-4% (5). However, in the case presented here, there was sensory disturbance, which is extremely rare and can present a diagnostic dilemma requiring radiological and comprehensive head and neck examination, including muscle palpation and temporomandibular joint examination to confirm the diagnosis.

2. Case presentation

We report a case of a 52-year-old Caucasian male at The Center for Orofacial Pain and Temporomandibular Joint Disorders at the University of Medicine and Dentistry of New Jersey. The patient presented with constant numbness in the area starting from the dental midline and extending along the right side of the maxilla over the past few weeks. The patient also reported difficulty in breathing, especially lying down. The patient previously sought consultation from his dentist, who was unable to reach a definitive diagnosis and referred him to the Center for

Corresponding author:

Iffat Mirza Ahmed, Department of Oral and Maxillofacial Sciences, Al-Farabi Colleges, Jeddah, Saudi Arabia.

Tel: +966126735693, Email: iffatfarabi@gmail.com

Received: February 05, 2016, Accepted: April 06, 2016, Published: April 2016

iThenticate screening: April 06, 2016, English editing: April 08, 2016, Quality control: April 12, 2016

© 2016 The Authors. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

Orofacial Pain and Temporomandibular Joint Disorders. After a comprehensive head and neck examination, including muscle palpation and temporomandibular joint examination, all of which were within normal limits, we suspected a CNS lesion. A cranial nerve screening examination disclosed hyposensitivity in the area of teeth # 7 to 10. A panoramic radiograph demonstrated an abnormality in the right sinus. We determined the need for additional diagnostic testing. Our concerns included nasopharyngeal carcinoma, inflammatory nasal polyp, or hemangiopericytoma; therefore, we requested Cone Beam Computed Tomography (CBCT) to limit our differential diagnosis and to direct us to a definitive diagnosis (Figure 1).

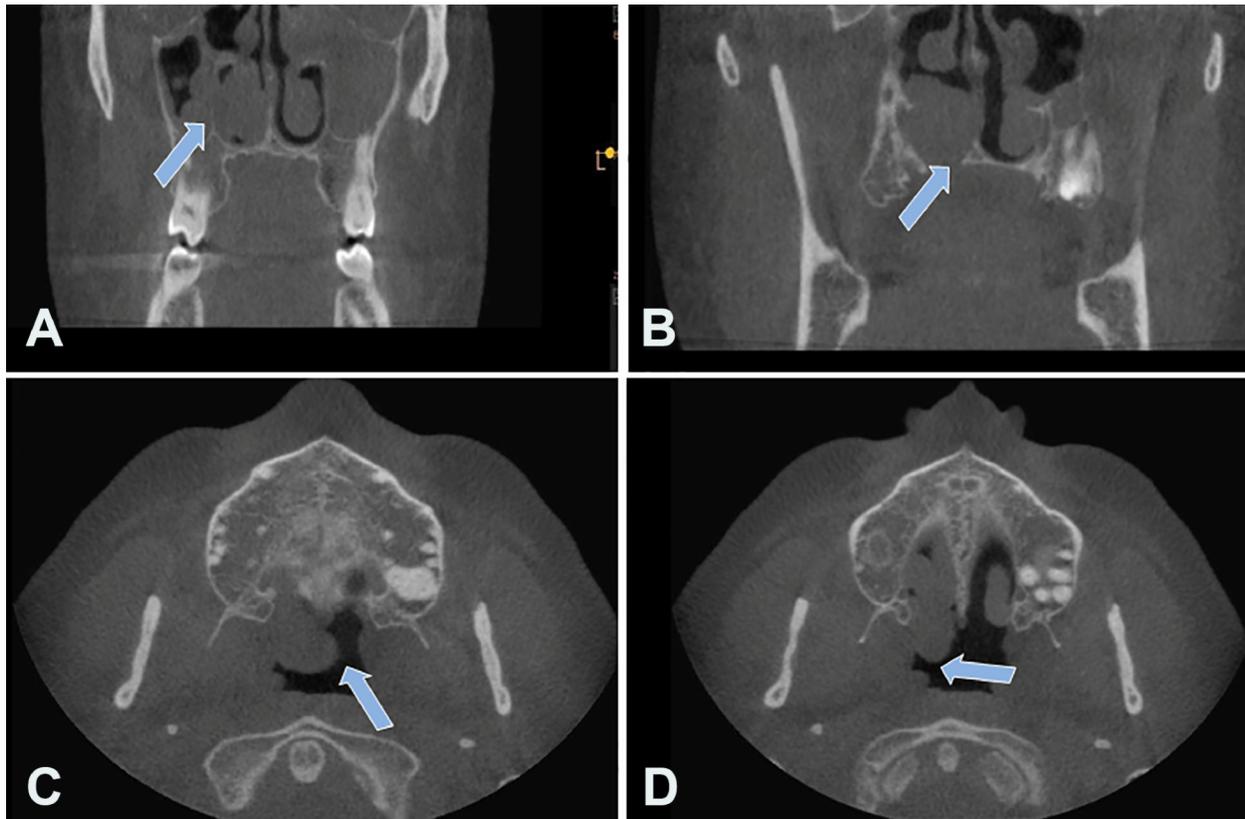


Figure 1. A) Coronal view of destruction of the right maxillary sinus medial wall; B) Coronal view of perforation of the palate; C) Axial view of growth above the fossa of Rosenmuller; D) Axial view of growth from the right posterior nares

CBCT showed a thickened sinus membrane with a polypoid structure extending posterior from the right inferior concha into the oropharynx. The patient was referred to an ENT specialist for further evaluation. The ENT diagnosis was nasal polyp, and it was described to be destructive, causing the loss of bone in the medial sinus wall and hard palate. A steroid spray was prescribed three times per day, and, at follow-up, the patient's symptoms constant numbness had subsided and there was an intermittent fading sensation with no breathing difficulties lying down. Regarding the ethics of the case report, we should add that informed consent was obtained from the patient for publication of this manuscript. The Ethics Committee of the University of Medicine and Dentistry approved this case report research.

3. Discussion

The previous literature indicates that acute sinus inflammatory changes may result in nerve hypersensitivity, whereas chronic sinus inflammatory changes (polyps and neuritis) accompanied by early nerve damage usually results in hyposensitivity (6, 7). Our findings were compatible with Eliav, Benoliel et al. (8) on trigeminal neurosensory changes following acute and chronic paranasal sinusitis. They determined that, in chronic paranasal sinusitis, myelinated nerve fiber hyposensitivity extends to different trigeminal territories, which, in our case, presented as hyposensitivity from the dental midline and to the right side of the maxilla. The reasons for the presenting clinical symptoms were that the sinus inflammatory changes and the chronic nature of the lesion

produced edema. The combination of extended pressure and the unremitting exposure to inflammatory mediators affected the behavior of the nerve, i.e., prolonged edema produced pressure on the nerve that led to nerve damage, which was presented clinically as hyposensitivity (8). Interestingly enough, the literature showed that, in some similar cases, patients also presented with occasional premolar and first molar toothache that mimicked pulpitis, which did not show in our patient (9, 10).

4. Conclusions

The diagnosis of nasopharyngeal polypoid lesions that resulted in sensory disturbance was unusual in terms of its symptoms and its clinical presentation. A definitive diagnosis in such a case can be achieved by proper cranial nerve screening and ancillary diagnostic testing, such as Cone Beam CT, which is useful and required for the diagnosis of sensory disturbances in the orofacial region. Further research may be aimed to assess the diagnostic methods in terms of cranial nerve screening, diagnostic imaging, and comprehensive head and neck examination for nasopharyngeal polyps.

Acknowledgments:

This study was done at the Center for Orofacial Pain and Temporomandibular Disorders, University of Medicine and Dentistry of New Jersey-New Jersey Dental School. We are grateful to the Dental School and Al-Farabi College for Dentistry and Nursing, Jeddah-Saudi Arabia.

Conflict of Interest:

There is no conflict of interest to be declared.

Authors' contributions:

Both authors contributed to this project and article equally. Both authors read and approved the final manuscript.

References

- 1) Garg D, Mathur K. Clinico-pathological Study of Space Occupying Lesions of Nasal Cavity, Paranasal Sinuses and Nasopharynx. *J Clin Diagn Res.* 2014; 8(11): 4-7. doi: 10.7860/jcdr/2014/10662.5150. PMID: PMC4290245.
- 2) Zafar U, Khan N, Afroz N, Hasan SA. Clinicopathological study of non-neoplastic lesions of nasal cavity and paranasal sinuses. *Indian J Pathol Microbiol.* 2008; 51: 26–9. doi: 10.4103/0377-4929.40386. PMID: 18417845.
- 3) Somani S, Kamble P, Khadkear S. Mischievous presentation of nasal masses in rural areas. *Asian J Ear Nose Throat.* 2004; 2: 9–17.
- 4) Salaria N, Sharma N, Garg U, Saluja SK, Agarwal R. Inflammatory Septal Nasal Polyp. *Iran J Otorhinolaryngol.* 2015; 27(81): 319-23. PMID: 26788482, PMID: PMC4710886.
- 5) Casale M, Pappacena M, Potena M, Vesperini E, Ciglia G, Mladina R, et al. Nasal polyposis: from pathogenesis to treatment, an update. *Inflamm Allergy Drug Targets.* 2011; 10(3): 158-63. doi: 10.2174/187152811795564055. PMID: 21428907.
- 6) Eliav E, Gracely RH. Sensory changes in territory of lingual and inferior alveolar nerves following lower third molar extraction. *Pain.* 1998; 77: 191-9. doi: 10.1016/S0304-3959(98)00100-6.
- 7) Eliav E, Teich S, Benoliel R, Nahlieli O, Lewkowicz AA, Baruchin A, et al. Large myelinated nerve fiber hypersensitivity in oral malignancy. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 2002; 94: 45-50. doi: 10.1067/moe.2002.126016. PMID: 12193892.
- 8) Benoliel R, Biron A, Quek SY, Nahlieli O, Eliav E. Trigeminal neurosensory changes following acute and chronic paranasal sinusitis. *Quintessence Int.* 2006; 37(6): 437-43. PMID: 16752699.
- 9) Okeson JP, Falace DA. Nonodontogenic toothache. *Dent Clin North Am.* 1997; 41: 367-83. PMID: 9142490.
- 10) Lindahl L, Melen I, Ekedahl C, Holm SE. Chronic maxillary sinusitis, Differential diagnosis and genesis. *Acta Otolaryngol.* 1982; 93: 147-50. doi: 10.3109/00016488209130865. PMID: 7064690.