

CASE REPORT

Inverted papilloma of the nasal cavity – case report

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ABSTRACT

BACKGROUND. Inverted Schneiderian papilloma is a fairly rare benign tumor of the nasal cavity. Even if this type of tumor is included in the category of benign tumors, it has an increased invasion potential and an increased tendency for malignization.

CASE REPORT. We present the case of a female patient diagnosed with bilateral nasosinusual tumor. Our evaluation and diagnostic protocol consisted in: ENT clinical examination, nasal endoscopy and cranio-facial CT scan. The treatment consisted in total removal of the tumor through endoscopic sinus surgery. The positive diagnosis was confirmed postoperatively by histopathological examination. Our patient showed favorable outcome under the treatment applied pre-, intra- and postoperatively at both the short- and long-term follow-up.

CONCLUSION. The case is distinctive because the diagnosed inverted Schneiderian papilloma was localized bilaterally in a female patient. We believe that the transnasal endoscopic approach is a successful treatment method, but rigorous pre-operative clinical, endoscopic and imaging assessment is mandatory; also, the technical equipment, surgical abilities and experience of the surgeon are essential to ensure better results than those obtained by an external approach.

KEYWORDS: endoscopic sinus surgery, Schneiderian papilloma, nasal cavity tumors.

INTRODUCTION

Inverted Schneiderian papilloma is a benign tumor which develops at nasosinusual level, characterized histologically by an inversed papilliform proliferation aspect in the dermal epithelium. Even if the tumor is included in the category of benign tumors, it has an aggressive growth, with an increased invasion potential and an increased tendency for malignization (2-53%). 10% of the cases diagnosed with Schneiderian papilloma are associated with squamous cell carcinomas¹. Inverted papilloma is almost always recurrent. In almost all cases described in the scholarly literature, they are localized unilaterally, with an increased frequency in males aged 50-60.

The etiology of inverted papilloma is unknown;

there are only some hypotheses incriminating allergic and local infectious factors.

Positive diagnosis is based on clinical examination, nasal endoscopy and imaging, as well as histopathological findings.

This paper presents a distinctive case of inverted Schneiderian exo-endophytic papilloma, emphasizing the diagnostic protocol and management of patients diagnosed with Schneiderian papilloma.

CASE REPORT

We present the case of a 57-year-old female patient, who presented in our Department with the following symptoms: right-side cephalalgia, right nasal

obstruction, right posterior and anterior purulent rhinorrhea and micro epistaxis, febrile syndrome, hyposmia and right ear otalgia. The symptomatology had an insidious onset.

The patient underwent different treatments consisting in antibiotics, antialgic and anti-inflammatory drugs, but with no improvement. From the patient clinical records, we mention that she had been under antihypertensive drugs treatment for a year, because the cephalalgic syndrome was attributed to hypertension.

Our evaluation and diagnostic protocol consisted in: ENT clinical examination, nasal endoscopy and cranio-facial CT scan.

The clinical evaluation revealed purulent discharge on the posterior pharyngeal wall, hyperemic pharyngeal mucosa, right nasal cavity completely obstructed by mucopurulent discharge and multiple translucent polypoid masses, polypoid degeneration of the right middle turbinate. A polypoid mass obstructing the left middle nasal meatus was observed in the left nasal cavity. The same findings were revealed by the flexible nasopharyngoscopy and later on confirmed by the cranio-facial CT scan (Figure 1).

Considering the characteristics of the case, the surgical treatment was taken in consideration. Preoperatively, the patient received parenteral antibiotic treatment associated with local and intravenous steroid anti-inflammatory drugs.

The endoscopic sinus surgery was performed under general anesthesia with orotracheal intuba-

tion. For the preoperative decongestion serum ephedrine was used. Intraoperatively, we used 0° and 70° nasal endoscopes and instruments specific for endoscopic sinus surgery.

The macroscopic aspect of the polypoid tumoral mass excised from the right nasal cavity was whitish, with firm consistency and irregular surface, of 5/10 mm in length. The content of the right maxillary sinus was grayish, with increased consistency, measuring 5/10 mm. The polypoid mass from the left nostril had an elastic consistency on palpation and 7 mm in length.

Under endoscopic control, the tumoral masses were excised bilaterally, with excision in healthy tissue. Postoperative nasal packing was performed for 24 hours.

The outcome after the surgical intervention was favorable: improved overall disposition, recommencement of nasal breathing and disappearance of both cephalalgia and fever. The patient received a 10-day oral antibiotic and steroid treatment, and, locally, a steroid nasal spray.

The excised pieces were sent to histopathological examination, which revealed nasal mucosa with focal papillary proliferations with connective-vascular axis covered by squamous epithelium, with no atypia but with endophytic growth; the findings were suggestive for an inverted Schneiderian papilloma (Figure 2, Figure 3).

The patient was monitored at 6 months in order to assess postoperative recovery or relapse; this was carried out by clinical, endoscopic and radiological monitoring (CT examination), showing that the patient is free of local recurrences.



Figure 1 Cranio-facial CT scan, coronal slice – tumoral masses with polypoid aspect occupying both nasal fossae, completely filling the right maxillary sinus.

DISCUSSIONS

Inverted papilloma is one of the benign nasosinus tumors that are most often approached endoscopically^{2,3}. Generally, it is localized unilaterally; thus, we consider our case to be a distinctive one due to its bilateral localization and also to the fact that this tumor had been diagnosed in a female patient.

Because of the potential for recurrence and malignant transformation, scholarly literature recommends using endoscopic treatment in case of limited invasion in the nasal cavity, ethmoidal cells and partially at the level of maxillary, sphenoidal and frontal sinuses⁴⁻⁷. The rate of recurrence varies between 0-27%^{1,4}.

Endoscopic sinus surgery, which was initially conceived as a therapeutic method meant for chronic rhinosinusitis refractory to drug treatment, has become in time, thanks to technical advancements and increasing surgical experience in our country, an



Figure 2 Schneiderian papilloma: the papillary structure with the connective-vascular axis covered by non-keratinized stratified squamous epithelium (Hematoxylin and eosin stain, x2)



Figure 3 Schneiderian papilloma squamous epithelial cells do not present cytonuclear atypias, and intraepithelial abscess appears focally (Hematoxylin and eosin stain, x5)

alternative to classic, radical surgery for treating nasosinusual tumoral pathologies. A mandatory condition for ensuring success is a large amount of experience in endoscopic sinus surgery.

At the same time, in order to carefully monitor postoperative and further outcome, we believe that nasal endoscopy and CT or MRI examination must be used^{8,9}.

The aim of the endoscopic surgical intervention in case of an inverted papilloma is represented by the complete ablation of the tumoral growth in order to avoid local recurrences, and the decision of choosing between an open and an endoscopic surgical approach is made according to the size, localization and histopathological type of the tumor^{5,6}.

We believe that for the success of an endoscopic surgical intervention, it is important to perform a correct preoperative endoscopic and imaging assessment of the case, in order to make a correct decision regarding the treatment. Cortisone and antibiotic drug treatment is essential pre- and postoperatively^{1,4,5}.

CONCLUSIONS

We consider our case to be a distinctive one due to the fact that this tumor had been diagnosed in a female patient and the tumor localization was bilateral.

We believe that the transnasal endoscopic approach for an inverted nasal cavity papilloma is a successful way of treatment, with benefits in term of lack of aesthetic deficiencies, short hospitalization period, as well as increasing the patients' quality of life. But, at the same time, it has some disadvantages. If the tumor is large and, due to its localization, a successful removal by endoscopy alone is not possible; the approach can be combined – open surgery and endoscopic sinus surgery.

In this context, we believe that rigorous preoperative clinical, endoscopic and imaging assessment is mandatory, and the technical equipment, surgical abilities and experience of the surgeon are essential to ensure better results than those obtained by an external approach. The aim of the surgery is the complete resection of the tumor.

REFERENCES

1. Musat G. – Patologia rinossinusal benigna otorinolaringologica. In: Popescu I., Ciuce C. (sub red.), Sarafoleanu C. (coord.) - *Tratat de chirurgie*. Editia a II-a. Vol. I: Otorinolaringologie si chirurgie cervicofaciala. Editura Academiei Romane, 2012;p.160-166.
2. Kim W.S., Hyun D.W., Kim C.H., Yoon J.H. - Treatment outcomes of sinonasal inverted papillomas according to surgical approaches. *Acta Otolaryngol.*, 2010 Apr;130(4):493-7.
3. Osuch-Wójcikiewicz E., Wojas O., Nyckowska J., Chęciński P., Sielska-Badurek E., Bruzgielewicz A., Szwedowicz P., Niemczyk K. -

- Management of recurrent sinonasal inverted papilloma in the experience of ENT Department Medical University of Warsaw. *Otolaryngol Pol.*, 2010 Jun;64(7):73-6.
4. Lund V.J. - Optimum management of inverted papilloma. *J Laryngol Otol.*, 2000;114:194-197.
 5. Llorente J.L., Deleyiannis F., Rodrigo J.P. et al. - Minimally invasive treatment of the nasal inverted papilloma. *Am J Rhinol.*, 2003;17:335-341.
 6. Schlosser R.J., Mason J.C., Gross C.W. - Aggressive endoscopic resection of inverted papilloma: an update. *Otolaryngol. Head Neck Surg.*, 2001;125:49-53.
 7. Karligkiotis A., Bignami M., Terranova P., Gallo S., Meloni F., Padoan G., Lombardi D., Nicolai P., Castelnovo P. - Oncocytic Schneiderian papillomas: Clinical behavior and outcomes of the endoscopic endonasal approach in 33 cases. *Head Neck.*, 2013 Apr 18. doi: 10.1002/hed.23341. [Epub ahead of print]
 8. Bertrand B., Eloy P., Jorissen M., Rombaux P., Daele J., Boniver V., Collet S., Demanez J.P., Verheyden P.J., Bachert C. - Surgery of inverted papillomas under endoscopic control. *Acta Otorhinolaryngol Belg.*, 2000;54(2):139-50.
 9. Díaz Molina J.P., Llorente Pendas J.L., Rodrigo Tapia J.P., Alvarez Marcos C., Obeso Agüera S., Suárez Nieto C. - Inverted sinonasal papillomas. Review of 61 cases. *Acta Otorrinolaringol Esp.*, 2009 Nov-Dec;60(6):402-8.