

Functional Endoscopic Sinus Surgery under Local Anesthesia

Raneem Alshaikh, BSc, MD* Keith Johnston, MBChB, FRCA** Hiba Alreefy, DOHNS, FRCS, ORCHNS***

Functional endoscopic sinus surgery (FESS) is among the most common procedures performed by otorhinolaryngologist. One of its challenging indications is inverted papilloma, which is a rare benign tumor, which has a high tendency to recur.

Despite being usually performed under general anesthesia, we report a case of FESS performed under local anesthesia on an 88-year-old male with multiple comorbidities.

The patient had relief of symptoms with no reported complications or recurrence.

Bahrain Med Bull 2020; 42 (4): 293 - 294

Functional Endoscopic Sinus Surgery (FESS) is a common procedure performed by otorhinolaryngologists. It is the treatment option for nasal polyposis, chronic rhinosinusitis, and allergic fungal rhinosinusitis after the failure of medical treatment.

The complexity of the anatomy of the sinuses and their proximity to the cranium and other vital structures makes it one of the challenging procedures in otorhinolaryngology. Thus, optimizing the patient's overall condition and comorbidities before the surgery is necessary.

FESS is usually done under general anesthesia to minimize patient discomfort together with airway protection in case of bleeding. However, in some general anesthesia is risky due to the presence of comorbidities.

Performing FESS under local anesthesia can be decided by the surgeon after discussing all the risks with the patient and anesthetist. Only a few cases were reported in the literature.

The aim of this presentation is to report a case of FESS performed under local anesthesia resulting in complete relief of symptoms and no complications.

THE CASE

An eighty-eight-year-old male complained of left-sided epistaxis and nasal blockage for many years. The patient is known to have ischemic heart disease and chronic obstructive lung disease; he is a long-standing heavy smoker.

The polypoidal mass was filling the left nasal cavity and small polyps were seen in the right nostril, see figure 1. Endoscopy showed normal nasopharynx.



Figure 1: Polypoidal Mass Filling the Left Nasal Cavity

Computed tomography (CT) scan of the sinuses revealed pansinusitis and a mass in the left nasal cavity, see figure 2.

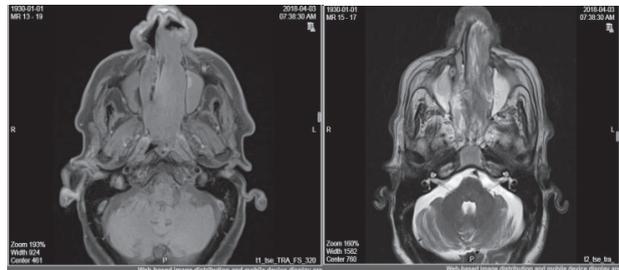


Figure 2: Axial and Coronal Views of CT Scan Showing the Extent of the Disease

Magnetic resonance imaging (MRI) of the paranasal sinuses revealed 8.6x4.2x3.1 cm mass in the left nasal cavity suggestive of inverted papilloma with no intraorbital or intracranial extension, see figure 3.

* Senior House Officer
Department of ENT
** Anesthesia Consultant
Department of Anesthesia
*** ENT Consultant
Department of ENT
King Hamad University Hospital
Kingdom of Bahrain
E-mail: raneem.raed@khuh.org.bh

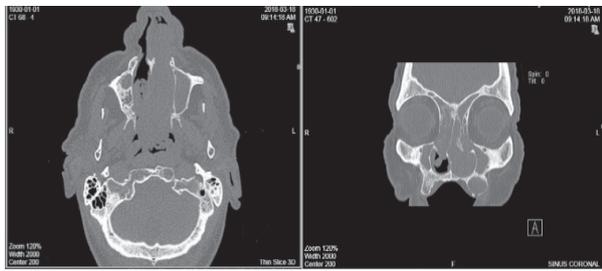


Figure 3: Axial Views in MRI Scan

The patient was reviewed in the pre-anesthesia and cardiology clinics. Echocardiogram showed an ejection fraction of 40%; therefore, general anesthesia was considered high risk.

The option of performing the procedure under local anesthesia was discussed with the patient and all the risks were considered. He agreed with the management plan.

FESS was performed after packing the nose with adrenaline and nasal decongestant; Lidocaine 2% and epinephrine 1:100,000 was used as LA. Microdebrider was used to remove the mass in the left nasal cavity and a sample was sent for histopathology.

The patient was cooperative, complained of swallowing some blood initially but this was stopped soon after packing the nose with nasopore.

Histopathology revealed benign sinonasal papilloma. The patient was seen in the clinic and was breathing better with no more episodes of epistaxis.

DISCUSSION

Inverted papillomas of the paranasal sinuses are rare, benign tumors. It represents approximately 4% of sinus tumors¹. Its high recurrence rates and association with malignancies necessitate early detection and intervention. Despite newly proposed techniques, the literature is still favoring the endoscopic endonasal approach over the non-endoscopic (midfacial degloving, lateral rhinotomy, and modified Lothrop)².

The endoscopic approach was first tried by Stammberger in 1981. Despite being most effective to disease restricted to the middle nasal meatus, anterior and posterior ethmoidal cells, nasofrontal recess, or sphenoid sinus, the endoscopic approach has shown to have lower recurrence rates compared to open approaches. Pasquini et al and Mirza et al studies confirmed the low recurrence rate^{3,4}.

Although histologically benign, most inverted papilloma show local invasion. Thus, careful evaluation using CT scan is vital⁵. Another challenging characteristic is a recurrence, which is explained by two theories: the spread of abnormal papilloma epithelium to the lateral nasal mucosa or multicentric origin through metaplasia extending to adjacent mucosa^{6,7}.

Our case highlighted that inverted papilloma could be managed through an endoscopic endonasal approach with minimal anesthesia.

CONCLUSION

We aimed to offer the patient maximal relief of symptoms while still keeping in mind the standard recommendations for the management of inverted papilloma and its common recurring tendency.

Author Contribution: All authors share equal effort contribution towards (1) substantial contributions to conception and design, acquisition, analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content; and (3) final approval of the manuscript version to be published. Yes.

Potential Conflict of Interest: None.

Competing Interest: None.

Sponsorship: None.

Acceptance Date: 5 October 2020.

Ethical Approval: The study was approved by the Head of Scientific Development and Research, King Hamad University Hospital, Bahrain.

REFERENCES

1. Pietrobon G, Karligkiotis A, Turri-Zanoni M, et al. Surgical Management of Inverted Papilloma Involving the Frontal Sinus: A Practical Algorithm for Treatment Planning. *Acta Otorhino-Laryngologica Italica* 2019; 39(1): 28–39.
2. Baradaranfar MH, Dabirmoghaddam P. Transnasal Endoscopic Approach for Sinonasal Inverted Papilloma. *Medical Journal of the Islamic Republic of Iran* 2007; 18(2).
3. Pasquini E, Farneti G, Modugno GC, et al. Inverted Papilloma: Report of 89 Cases. *Am J Otolaryngol.* 2004; 25:178–185.
4. Mirza S, Bradley PJ, Acharya A, et al. Sinonasal Inverted Papillomas: Recurrence, and Synchronous and Metachronous Malignancy. *J Laryngol Otol.* 2007; 121(9):857–864.
5. Saha SN, Ghosh A, Sen S, et al. Inverted Papilloma: A Clinico-Pathological Dilemma with Special Reference to Recurrence and Malignant Transformation. *Indian Journal of Otolaryngology and Head & Neck Surgery* 2010; 62(4), 354–359.
6. Oikawa K, Furuta Y, Itoh T, et al. Clinical and Pathological Analysis of Recurrent Inverted Papilloma. *Ann Otol Rhinol Laryngol* 2007; 116(4):297–303.
7. Kamath, MP, Shenoy SV, Prasad VB, et al. Inverted Papilloma of Atypical Origin with Unusual Extension into the Oropharynx. *Journal of Cancer Research and Therapeutics* 2015; 11(3), 666–666.