



## ORIGINAL ARTICLE

# Case series of Inverted Papilloma In Amir-Alam Hospital, Tehran

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### ABSTRACT

Being a neoplasm arising from the mucosal membrane of the nasal cavity, the Inverted papilloma is caused by the inverted cell proliferation at the basement membrane. Because of its high rate of recurrence and associated squamous cell carcinoma (SCC), this neoplasm, while uncommon, is a serious problem. This tumor may be found during every period of life, however, the pick age of its occurrence is the fifth and sixth decades of life; the mean age of its clinical presentation is 50 and the male to female ratio is 3:1. There is not any specific clinical symptom for this tumor. In fact, it is initially appeared at the nasal cavity as a mass and as it enlarges spreads directly to the paranasal sinuses. The most common sinuses involved are Maxillary and Ethmoid. However, it may also involve the Frontal and Sphenoid sinuses. The lesion is often a unilateral involvement. The disease is treated through surgery. A wide and total local excision is necessary to prevent the recurrence. The standard surgical technique is lateral lithotomy with medial maxillectomy. Tendencies to the Endoscope-assisted Conservative Resection have increased in recent years and the Functional Endoscopic Sinus Surgery (FESS) has been a successful treatment in selected and special patients. It is a useful technique for limited lesions but should not be practiced by amateur surgeons or the recurrence would be certain. In this study, we have investigated patients whom with a diagnosed Inverted papilloma of the nasal cavity and paranasal sinuses had been hospitalized at Amir-Alam hospital since 2001 to 2011. In 28 patients, the ratio of male to female was 8 to 1 and the mean age of occurrence was 51.4. The simultaneous involvement of Maxillary and Ethmoid sinuses was seen in 71.4%; that of Maxillary, Ethmoid and Frontal sinuses was 17.9%, in 7.1% and 3.6% only the Maxillary and Ethmoid sinuses were involved, respectively. The right and the left sides were involved in 57.1% and 42.9% of all the subject studies, respectively. FESS surgery was used in 92.9% and Degloving in 7.1% of all cases. Associated SCC was noticed in 10.7% of all the subject studies. Finally, one can conclude that inverted papilloma, while rare, for its high rate of recurrence, high risk of malignancy and repeated surgeries increasing time and cost of its treatment is a serious problem which early and accurate diagnosis can, through limited FESS surgery, treat it and decrease the recurrence risk.

**Keywords:** Functional Endoscopic Sinus Surgery (FESS), Papilloma

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### INTRODUCTION

Inverted papilloma is a neoplasm arising from the mucosal membrane of the nasal cavity that like other neoplastic lesions is caused by the inverted cell proliferation at the basement membrane [1]. The stimulus of this proliferation is unknown; it thickens the epithelium and ultimately brings about a fungiform or inverted lesion or a combination of them [2, 3]. Because of its high rate of recurrence and associated squamous cell carcinoma (SCC), this neoplasm, while uncommon, is a serious problem. Although the most common site of involvement is the mucosa of the lateral wall [1], it abnormally grows in paranasal, nasopharynx, and the nasal septum, too [3].

Inverted papilloma consists up to 4.7-04% of nasal tumor surgeries and the pick age of its occurrence is during the fifth and sixth decades of life. The mean age of its clinical presentation is 50 with the male to female ratio being 3:1 [1-4]. There is not any specific clinical symptom for this tumor. In fact, it is initially appeared at the nasal cavity as a mass and as it enlarges spreads directly to the paranasal sinuses. The most common sinuses affected by are Maxillary and Ethmoid. However, it may also affect the Frontal and Sphenoid sinuses [5, 1]. This tumor leads to the unilateral nasal obstruction (the most common symptom) in absent or present of sinusitis, rhinorrhea and rarely epistaxis. The involvement of this lesion is often

unilateral. The disease is treated through surgery. A wide and total local excision is necessary to prevent the recurrence. The standard surgical technique is lateral lithotomy with medial Maxillectomy. Tendencies to the Endoscope-assisted Conservative Resection have increased in recent years and the Functional Endoscopic Sinus Surgery (FESS) has been a successful treatment in selected and special patients. It is a useful technique for limited lesions but should not be practiced by amateur surgeons or the recurrence would be certain.

## **MATERIALS AND METHOD**

Among patients who, from 2001 to 2011, had gone to the Amir-Alam hospital those hospitalized for Inverted papilloma were studied and their medical records were investigated. Information of each record was contained in a survey created based on age, gender, involved sinus, involved side, associated SCC and type of surgery. Patients whose Inverted papilloma was diagnosed yet for some reasons such as poor physical and age-related conditions or discontent for surgery had not been operated were omitted from the study. Then, the results were analyzed with SPSS 12.

## **RESULTS**

During this study up to 50 records related to patients with diagnosed Inverted papilloma were investigated but because of incomplete medical records only 28 patients were studied. Out of 28 patients studied, 25 (89.3%) were male and 3 (10.7%) were female with male to female ratio of 8:1. The mean age of patients was 51.34 (varying from 12 to 71). In terms of sinus involvement, the simultaneous involvement of Maxillary and Ethmoid sinuses was seen in 5 (71.4%) subjects; that of Maxillary, Ethmoid and Frontal sinuses was noticed in 5 (17.9%), and in 2 (7.1%) and 1 (3.6%) only the Maxillary and Ethmoid sinuses were involved, respectively. Right side and paranasal sinus involvement was seen in 16 (57.1%) and left side involvement was noticed in 12 (42.9%) patients. In terms of surgery, 26 (92.9%) patients underwent the Functional Endoscopic sinus surgery (FESS) and 2 (7.1%) experienced Degloving. Totally, 3 (10.7%) had SCC and 25 (89.3%) did not.

## **DISCUSSION AND CONCLUSION**

In present study, the male to female ratio is 8:1 while in previous studies it has been, averagely, 3:1 [1-4, 9-7, 11, 18-20, 23, 25, 29]. The mean age of patients was 51.43 that accords with previous studies. The pick age of its occurrence is stated to be during the fifth and sixth decades of life [1-4, 9-7, 11, 18-20, 23, 25, 29]. In present study, the most common involved sinuses are Maxillary and Ethmoid concurrently which is consisted with 2 other studies [1, 2] and in one study the most common sinus was Ethmoid with an involvement rate of 89.1%. Previous studies often stated the unilateral involvement [1, 6, 10, 11, and 17], in this study, too, the involvement was unilateral in all cases. Previous studies seldom stated the involved side, the right side involvement was a little more than that of the left side which is in contrast to the ration of the present study (57.1% right and 42.9% left side involvement). In this study, the SCC association was seen in 10.7% of subject studies. In previous studies, this association varied from 65.4% to 100%. In one study FESS was used only in 3.7% of patients [29]. In the stated studies, the Degloving was considered as a subcategory of external surgeries and the ratio of FESS had been compared to external surgeries. This variation might be due to the extent of the lesion. The standard surgical technique is lateral lithotomy with medial maxillectomy. The extent lesion must be resected externally while limited lesion can be removed with FESS. FESS should be practiced by professional surgeons and is specific to particular selected patients. Because of the high rate of malignancy and recurrence, safe distances of the resection sites, the careful examination of patients through radiologic procedures (e.g. MRI) and Periodic medical examination are recommended. The use of FESS which compare to external surgeries has minimal invasion, less morbidity and short in-patient cares is increasing throughout the world. It is even used for great lesions which involved paranasal sinuses. Yet, it should be limited to lesions visible endoscopically and completely controlled. In other hand, it needs professional surgeons and if there is any doubt about total excision of the tumor it should be replaced with external methods. It is particularly important for extent lesions.

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