Egyptian Journal of Ear, Nose, Throat and Allied Sciences (2012) **13**, 1–6

Egyptian Society of Ear, Nose, Throat and Allied Sciences

Egyptian Journal of Ear, Nose, Throat and Allied Sciences

www.ejentas.com

ORIGINAL ARTICLE

Extended sublabial vestibulotomy (ESV) approach for inverted papilloma

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Received 27 November 2011; accepted 21 January 2012
Available online 21 February 2012

KEYWORDS

Inverted papilloma;
Sublabial vestibulotomy (ESV)

Abstract *Background:* The reported incidence of inverted papilloma of the sinonasal areas is 0.5–4% of all primary nasal tumours. Aggressive surgical approaches and endoscopic sinus techniques have been used as the main line of management.

Study design: To evaluate 30 cases of inverted papilloma as regarding their clinical and radiological findings, as well as the use of the extended sublabial vestibulotomy (ESV) approach in their management.

Results: The age average was 56.13 years with male prevalence. The lateral nasal wall and nasal cavity were involved in all the cases. The individual sinuses were involved to a variable extent. All patients treated by extended sublabial vestibulotomy with endoscopic assistance whenever indicated with no significant complications or recurrence.

Conclusion: ESV approach is ideally for extensive benign lesions in the sinonasal areas; as well, it enables the access to the nasopharynx. It can be considered as a feasible approach.

1. Introduction

Inverted papilloma of the nose and paranasal sinuses are rare tumors, the reported incidence being 0.5–4% of all primary nasal tumours.[1] It is recognized as a neoplastic growth of the epithelium that inverts into the underlying stroma rather than proliferating outward from the surface.[2] The neoplasm is characterized by its capacity to destroy the surrounding, tendency to recur after removal and its association with malignancy.[3] The aetiology of the tumour remains unknown. Inflammation, allergy, tobacco and occupation exposures have been discounted as significant factors. Viral aetiology remains inconclusive and investigations using in situ hybridization (ISH) and PCR have been used to determine its link with HPV.[4] The reported prevalence of carcinoma in patients with inverted

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Peer review under responsibility of Egyptian Society of Ear, Nose, Throat and Allied Sciences.
doi:10.1016/j.ejenta.2012.01.005

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papilloma varies from 5–8%.[5] Lateral rhinotomy approach reduced recurrence remarkably compared with transnasal endoscopic removal (13% versus 45%, respectively).[6] On the other hand, the midfacial degloving approach was a favourable option for advanced cases with a fair recurrence rate. It can replace the lateral rhinotomy approach, which is considered too invasive for benign tumour due to its facial scar.[7]

1.1. Aim

The objectives of this study were to evaluate the clinical features and the radiological findings of the inverted papilloma, as well to emphasise on the experience of our institution with extended sublabial vestibulotomy (ESV) and medial maxillectomy approach in its removal with endoscopic assistance.

1.2. Patients and methodology

From January 2005 to October 2010, thirty cases with histologically documented inverted papilloma admitted to ORL department at the Main University Hospital (MUH), of the Faculty of Medicine, University of Alexandria, Egypt were included in the current study. The ethical committee of Alexandria Medical School approved of the study and informed consents were performed for all patients.

Detailed history as regards age, sex, onset of symptoms, duration and previous history of any surgery or other forms of treatment were taken into consideration. ENT examination included anterior and posterior rhinoscopy, as well as detailed radiological studies, namely, axial and coronal CT Scans and MRI of nose and PNS for accurate preoperative staging. Endoscopic examination and biopsy performed under local anaesthesia, using 4 mm Karl–Storz endoscopes and tissues were sent for histopathological examination. Extended sublabial vestibulotomy with endoscopic assistance with or without medial maxillectomy was planned for all studied cases with nasal cavity, maxillary sinus, as well frontal, ethmoid or sphenoid sinuses lesions according to the extent of the tumour. Tumours involving the skin, subcutaneous tissue or extending to the infratemporal fossa, zygoma or skull base were not included.

Curved endotracheal tube secured to the midline of the chin was used to administer general anaesthesia. Nasal mucosa was treated by injection of 1% lidocaine with 1:100,000 epinephrine into the planned intranasal and sublabial incisions and the canine fossa to ensure local haemostasis. Sublabial incision was made with a No. 10 blade or electrocautery. Incision was carried down through the periosteum of the canine fossa. It should be designed to leave a cuff of loose tissue on the gingival side to allow for closure. Standard incision from one first molar to the contralateral first molar was extended unilaterally around the maxillary tuberosity and onto the soft palate. Soft tissue over the anterior maxilla was elevated in the subperiosteal plane, extending widely to the zygoma and up to the infraorbital rim. Superiorly, the neurovascular bundle of the infraorbital nerve was visualized and carefully preserved if not involved by the tumour. Nasal floor and sublabial incisions were connected. Nasal bone separated from nasomaxillary and nasofrontal suture to facilitate nasal entrance. Nasal septum was freed from the floor of the nose using dissection. Full retractions of the facial soft tissues, including the upper lip and entire nasal skeleton, as well as the freed nasal septum were performed up to the level of the medial canthus. If needed, medial maxillectomy was performed in the standard way according to tumour extension. After resection, the soft tissues were allowed to return to the normal anatomic position. Closure of the nasal incision began with 3–0 chromic transfixation stitches. The precise placement of this suture is critical in determining the final position of the nasal tip. Haemostasis was achieved by packing of the nasal cavity bilaterally using Sofratulle to be removed after 24 h. Closure of the sublabial incision was assured through re-approximation at the fraenulum using 3–0 chromic material. Peri-operative broad-spectrum antibiotics (3rd generation cephalosporin) as well as postoperative steroids and anti-inflammatory drugs were used for 7–10 days.

Two cases out of the 30 studied cases were associated with histopathological documentation of squamous cell carcinoma, and underwent Cobalt Radiation Therapy (6000cGy) postoperatively. All the data collected were analysed using S.P.S.S. version 11.

2. Results

The age of the patients ranged from 30–79 years with an average age of 56.13 years (Table 1). The disease was found to be more prevalent in males than females and the M:F ratio was 1.7:1. Unilateral nasal obstruction was the main presenting symptom and it was encountered in 29 cases (96.7%). The nasal discharge was in 25 cases (83.3%), while epistaxis was only in 12 cases (40%) (Table 2). The lateral nasal wall and nasal cavity were involved in all the cases. The individual sinuses were involved to a variable extent. PNS CT Scan (Axial and Coronal Views) and intra-operative endoscopic assessment exhibited that the maxillary sinus was involved in 25 cases (83.3%), the ethmoid sinuses were involved in 20 cases (66.7%), frontal sinus was involved in four cases (13.3%), sphenoid sinus was involved in three cases (10%), and nasopharynx in eight cases (26.7%). Nasal cavity and one or more sinuses were involved in 27 cases (90%). Only three (10%) patients presented with the lesion in the nasal cavity without sinus involvement (Table 3).

All patients were treated by extended sublabial vestibulotomy and endoscopic assistance with or without medial maxillec-

Table 1 Distribution according to age and sex in 30 cases.

Age (years)	Male	Female	Total	%
30–39	2	1	3	10
40–49	3	4	7	23.3
50–59	6	3	9	30
60–69	4	2	6	20
70–79	4	1	5	16.7
Total	19	11	30	100

Table 2 Distribution of symptoms in 30 cases.

Symptoms	No. of cases	%
Unilateral nasal obstruction	29	96.7
Nasal discharge	25	83.3
Epistaxis	12	40