Inverted Papilloma—An Analysis of 30 Cases

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Clinical, radiological and surgical details of 30 patients of inverted papilloma treated between the years 1990-1995 were analysed. Inverted papilloma is a benign but locally aggressive tumour. Unilateral nasal obstruction with or without bleeding was the commonest presenting feature. More than half of the patients gave history of previous surgery. CT scan is a good modality to know the exact extent of the lesion and plan surgery. Radical surgery was done in all patients. We had recurrence in 1 patient (3.3%) and two patients had carcinomatous change (6.6%). The results are presented with brief review of literature.

Key words

Inverted papilloma, Nasal cavity neoplasms.

INTRODUCTION

Inverted papilloma is an epithelial neoplasm characterised by hyperplastic epithelium inverting into the underlying stroma. There are numerous synonymous to this entity like Ringertz tumour, papillary sinusitis, polyp with inverting metaplasia, schneiderian papilloma, inverting papilloma, benign transitional cell growth, epithelial papilloma, inverted schneiderian papilloma, soft papilloma, transitional cell papilloma, squamous papillary epithelioma, papillary fibroma, papillomatosis and cylindrical cell carcinoma. However, the most accepted term is inverted papilloma. It is relatively a rare neoplasm constituting 0.5% to 4% of all primary nasal tumours.⁹ The tumour is benign but locally aggressive as a result of its expansile growth.⁵ A higher tendency of recurrence, multicentricity and an association with malignancy with these

lesions has been well documented.⁴ There has been changing trends in the treatment of inverted papilloma from conservative local resection to more radical enblock resection and recently endoscopic resection.

We are reporting our experience in the treatment of 30 cases of inverted papilloma by vide enblock resection including medial maxillectomy with a brief review of literature

MATERIALS AND METHODS

The clinical, radiological and surgical details of 30 cases of inverted papilloma treated between 1990 and 1995 at Nehru Hospital, Post Graduate Institute of Medical Education and Research were analysed. There were 30 patients out of which 23.34% were females and 76.66% were males. The age of the patients ranged between 16-55 years with a mean of 36.9 years. In 17 patients the lesion was on the left side and in rest the

Fig.1

Bar diagram depicting symptomatology in inverted papilloma

right side was involved. No case had bilateral involvement was not seen in any of the cases. Most of the patients had presented with unilateral nasal obstruction with or without bleeding from

Fig.2

Diagram showing previous surgical procedures

the nose. Three patients presented with proptosis and one patient with facial pain (Fig.1). There was history of previous surgery in 17 patients. Intranasal polypectomy was done in 10 cases and in 5 caldwell-luc procedure was done in the cost. Two patients underwent both intranasal polypectomy and caldwell-luc procedure (Fig.2). All the patients were assessed radiologically using

plain X-rays and CT scan. Unilateral nasal cavity and maxillary sinus was involved in most of the patients. Ethmoids were involved in 25 cases (86.6%), Sphenoid 10 cases (30.3%), Frontal 3 (9.9%) cases and Orbit was involved in 6 (18.18%) cases. There were only 2 cases (6.6%)

Fig.3B

CT Scan showing tumour localized to nasal cavity

where the growth was limited to nasal cavity (Fig.3A, 3B). None of the cases had intracranial extension. There was no evidence of erosion of septum although it was pushed to the opposite side by the growth. In 2 cases there was haziness

FIG. 3A: RADIOLOGICAL EXTENT OF INVERTED PAPILLOMA

Fig.3A

Bar diagram showing radiological extent of inverted papilloma

Fig.4

Bar diagram showing the procedures done

of both the maxillary antra, opposite side was hazy due to retained secretions as confirmed intra operatively.

All the patients underwent surgical excision under general anaesthesia via lateral rhinotomy approach. In some patients it was combined with Lynch Howarth incision. Medial maxillectomy was done in all the patients. Some cases required exenteration of disease from sphenoid and frontal sinus in addition (Fig.4). The patients follow up period ranged from 1-4 years (mean 2.1 years). Three patients came with recurrence, of which two had carcinomatous change.

DISCUSSION

Inverted papilloma was classified as a true neoplasm in 1935³. Later Ringertz⁷ described the propensity of this tumour for local invasiveness.

Fig.5

Photomicrograph showing projection of stratified squamous lining into the subepithelial region. (H & E x 120)

The etiological factor for inverted papilloma has not been established till now although role of human papilloma virus type 6b and 11 has been postulated. Weber et al demonstrated 21 patients (76%) with inverted papilloma having viral DNA sequences in their tumours.¹⁰ Philips et al had hypothesised tobacco and smoke to play a role in the development of inverted papilloma in certain patients.

Pathologically the lesion tends to be firm,

Fig.6

Keratinizing squamous cell carcinoma arising in an inverted papilloma

polypoid, bulky and more vascular than inflammatory. Microscopically the tumour is characterised by inversion of the neoplastic epithelium into the underlying stroma (Fig.5). The epithelium may be of the respiratory type, transitional or squamous type with orderly maturation. Basement membrane separates the inverted epithelium from the underlying stroma. In cases of malignant change the invading epithelium invades the underlying bone also (Fig.6).

The commonest presenting symptom in our series was unilateral nasal obstruction (80%) which is comparable to the reported incidence of nasal obstruction in 66-81% cases.¹ The other symptoms were blood stained discharge, proptosis, and facial pain. History of previous surgery with recurrence of symptoms was present in 56.6% cases. We observed that significant number of cases in whom the tumour was treated primarily by conservative procedures done outside like intranasal polypectomy, Caldwell Luc procedure showed a recurrence. However, we feel that a wide resection with medial maxillectomy, complete ethmoidectomy combined with sphenoidotomy or frontal sinus clearance (whenever indicated) is required to bring down the recurrence rate.

In the present series we noted recurrence rate of 3.3% which is similar to other reports ranging from 0.29%.^{5,11} A higher recurrence rate 58% to 100% has been reported in the literature following conservative surgery with transnasal excision.⁸

The reported site of origin of this tumour seems to be lateral nasal wall, more specifically in the region of middle meatus.

Out of the recurrence in three cases two were male and one was female. Both the male patients had multiple surgeries done previously and these patients again presented with blood stained discharged after an average period of three months and biopsy revealed malignant changes. In third patient the disease was extending to both cribriform plate area and frontal sinus where the operator usually finds difficulty in clearing the disease.⁶ If we exclude recurrence due to malignant change than only 1 patient (3.3%) had recurrence.

An association of malignancy with inverted papilloma has been reported from 2-53%. However, we found 2 (6.6%) cases to have malignancy. One of these patients was reported to be having carcinoma in situ and was subjected to medial maxillectomy. The final specimen report was inverted papilloma with squamous cell carcinoma (Fig.6) and hence it was followed by radiotherapy (Fig.2). Another patient was lost to followup.

Wide excision in cases with limited disease is not always required and is rather an indication for endoscopic guided resection.^{2,12} As the tumour has great propensity to recur, we feel wide excision should be done instead of endoscopic resection. However endoscopes can be used to

follow up the patients regularly and treat the recurrence early.

For proper treatment planning the role of CT and MRI is very important. We used CT scan in all the patients. Both axial and coronal sections were taken to know the extent of the tumour. We in our series found 90% cases having bone destruction which was on the medial wall of maxilla. Lamina papyracea was seen to be eroded in 6 patients radiologically but intra operative only 3 dehiscences were found. This may be because of the partial volume averaging in case of thin bone of lamina papyracea. Erosion of the septum was not found in any case.

SUMMARY

1. Unilateral nasal obstruction with bleeding and polypoidal mass is the presenting symptom for inverted papilloma.
2. More than half of the patients (56.6%) have previous history of surgery about half of them more than once.
3. Majority of the patients are male (76.6%).
4. CT scan is a good radiological modality to know the extent of the tumour and planning surgery.
5. Recurrence is common with conservative procedures and in cases where the tumour is involving frontal sinus, sphenoid sinus and cribriform plate area and also if there any malignant change in the tumour.
6. There is a definite association of inverted papilloma with malignancy (6.6%).
7. Sign, symptom are not different for malignant changes except that the interval between surgery and recurrence of symptoms may be less.

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CONFERENCE NEWS

6th Gauhati University Oration (S. Kumar's) in Otolaryngology was held in the Gauhati Medical College on 16th January, 1998.

Mr. Alan G. Kerr, Consultant E.N.T. Surgeon, Royal Victoria Hospital, Belfast, U.K. immediate Past President of British Association of Otolaryngology and Head & Neck and Chief Editor of Scott Brown's Diseases of Ear, Nose and Throat (5th and 6th editions) delivered the 6th Gauhati University (S. Kumar's) oration in Otolaryngology in Gauhati Medical College on 16th January, 1998. The topic of the Oration was "Management of Vertigo".

The meeting held on the occasion was presided over by Vice Chancellor of Gauhati University Dr. H.L. Duorah. Principal of Gauhati medical College Dr. N.N. Barman earlier welcomed the guest. Sri U.C. Das Academic Registrar of Gauhati University introduced the guest speaker. Dr. Duorah presented the scroll of honour to Mr. Kerr in recognition of his services in the field of Otolaryngology. Prof. K. P. Saikia, head of the E.N.T. department, Gauhati Medical College offered the formal Vote of thanks and felicitated him on behalf of staff and students of E.N.T. Department.

Mr. Kerr by his simple and vivid talk with humourous comments and illustrated slides kept the audience spell bound for nearly two hours.