

# Routine Histological Examination for Nasal Polyp Specimens: Is it Necessary?

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## SUMMARY

Nasal polyp is one of the common causes of nasal obstruction. The diagnosis is usually made on clinical ground and rarely needs histological examination. However, when a candidate is selected for the surgical option of polyp removal, there is tendency to send all specimens for routine histological examination. The objective of this study was to assess the necessity of routinely performed histological examination in all nasal polyp specimens. A retrospective review of all nasal polyp histological reports was done from patients who underwent polypectomy or functional endoscopic sinus surgery in Universiti Sains Malaysia Hospital between January 2000 to July 2006. It consisted of 95 patients. Majority of the reports came back as inflammatory nasal polyp (93.6%) and other varieties of benign nasal mass (5.3%). However, one specimen was noted to be malignant (1.1%). In conclusion all nasal polyp specimens should be sent for histological examination in order to confirm the diagnosis.

## KEY WORDS:

*Histopathology, Nasal polyp specimens, Unilateral, Bilateral*

## INTRODUCTION

Nasal polyp is defined as a mass arising from the nose or paranasal sinus mucosa, resulting from oedema of the connective tissue stroma which contains inflammatory mediators. It is one of the commonest causes of nasal obstruction. Clinically, it presents as a round, smooth, translucent, soft, usually pale and glistening appearance mass attached to the nasal or sinus mucosa by a pedicle or narrow stalk. Usually this multiple and bilateral intranasal clustered grape-like mass is non-tender and moves with probing.

The lateral nasal wall is the commonest site of origin as compared to the septal counterpart mainly because all the sinus openings are in the lateral wall. In the order of the most to the less common site, are of the ethmoid, maxillary, frontal and sphenoid sinuses which can be involved. The incidence is four times higher in males.

It is a common practice to biopsy all unilateral nasal polyps and not the clinically diagnosed bilateral polyps as an outpatient procedure. Because of the classical clinical appearance, the diagnosis of nasal polyp is usually made on clinical grounds and rarely needs histological confirmation. Medical therapy is then commenced. It is when the

treatment with intranasal steroid spray and oral antihistamine fails that the surgical option is considered.

Rhinologists worldwide tend to send all the nasal polyps removed during operation for histopathological assesment. Most of the time, the clinical diagnosis is no different from the histological report. In this paper, we describe our retrospective evaluation of nasal polyp specimens from patients who underwent surgical removal of the polyp at Hospital Universiti Sains Malaysia, to assess the outcome of histopathological examination.

## MATERIALS AND METHODS

This is an observational (retrospective) study whereby the patients who had surgically treated for their nasal polyp were included in the study population. The operative procedures were either polypectomy or functional endoscopic sinus surgery (FESS). All operations were done at Hospital Universiti Sains Malaysia, a teaching hospital, between January 2000 and July 2006. The nasal polyp specimens were routinely sent for histopathological examination post operatively. Patient with clinical diagnosis of nasal polyps either unilateral or bilateral were recruited. Patient with a mass suspicious of malignancy was excluded.

## RESULTS

A total of 95 patients were recruited for the study with age ranging from 10 to 75 years. All underwent polypectomy or functional endoscopic sinus surgery at Hospital Universiti Sains Malaysia from January 2000 to July 2006. Male patients constituted 61% of the study population. Majority of the patients were Malays (88%), with 11% of them being Chinese and one patient of Siamese origin. Table I shows the evaluation report of the nasal polyps.

The benign nasal masses on routine histopathological examination was reported as inflammatory nasal polyps with sinonasal papilloma (2 cases), inflammatory nasal polyp with retention cyst (1 case), capillary lobular hemangioma (1 case) and coagulated mucous (1 case).

The malignant specimen was interpreted as transitional cell papilloma with foci of atypia (carcinoma in situ). This patient presented with a unilateral nasal mass and biopsy taken in the clinic was interpreted as nasal polyp.

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Table I: Histopathological evaluation report of the nasal polyps

	No of patient	Percentage
Inflammatory nasal polyp	89	93.6 %
Other benign mass	5	5.3 %
Malignant	1	1.1 %

## DISCUSSION

Routinely, all nasal polyps removed at operation should be sent for histopathological examination. To date, there is no general consensus on the need for routine examination of nasal polyps among otolaryngologists.

The current trend of management of nasal polyp that is widely practiced is to biopsy all the unilateral nasal mass and not the clinically diagnosed bilateral polyp in the outpatient clinic. However, regardless the clinical diagnosis, it is the common practice in our centre to send all the removed tissues intraoperatively for histopathological evaluation.

It has been demonstrated from this study that although the biopsy taken in the clinic from the unilateral nasal mass turned out to be a nasal polyp, the post operative assessment of the specimen was positive for malignancy. If the routine evaluation was not done, the ultimate true diagnosis of the mass will be missed.

Questionnaires were randomly sent to selected ENT consultants in the United Kingdom for a national survey. With the return rate of 78%, the results revealed that 38% of the surgeons who replied sent all nasal polyps for examination but the majority of 62% did not. The commonest indications for requesting histology were unilateral polyps, with abnormal appearance and a history of bleeding<sup>1</sup>.

Most authors worldwide came up with evidence that specimens found to be positive for malignancy were already diagnosed or at least suspected during consultation prior to the surgery. Microscopic examination of nasal polyp specimens generally correlates well with preoperative clinical impressions, and pathology findings rarely alter patient management.

A retrospective review of all nasal polypectomy operations at the Radcliffe Infirmary, Oxford and the Freeman Hospital, Newcastle hospitals were analyzed. A total number of 2866 nasal polypectomy operations were performed between 1982 and 1988 and histopathological reports were reviewed. Not all the specimens were sent for routine histopathological examination. Only 74% of cases in Oxford and 33% in Newcastle were examined histologically. There were no reported cases of unsuspected malignancy found in this study<sup>1</sup>. The authors feel that all of the cases can be diagnosed clinically and they concluded that it is unnecessary to send all nasal polyps for histological examination.

On the other hand, there are quite a great number of researchers also found the opposite results and conclusions. Although the number of routine specimens that turned out malignant were small (less than 1%), routine

histopathological examination of nasal polyps is essential especially in the era of evidence-based medicine where medicolegal cases are on the rise. Kale SU *et al* found that there was 99.7% correlation between clinical and histopathological diagnosis. There was one unsuspected case of inverted papilloma in a polyp specimen<sup>2</sup>.

Likewise, in a retrospective series conducted by Garavelo *et al*, eight cases of clinically relevant unexpected diagnoses were identified, corresponding to a frequency of 0.37%. Inverted papilloma occurred in seven cases and neoplasia in one case<sup>3</sup>. They concluded that although rare, unexpected clinically relevant findings may be identified during routine histologic examination of nasal polyp specimens.

Failure to send all tissues removed from sinonasal tract during surgery for histopathological examination may miss the diagnosis and delay the appropriate treatment<sup>4</sup>. A cost-benefit analysis showed that based on the 250 cases per year, the cost of laboratory and pathological services would be a quarter of the estimated average medicolegal cost<sup>5</sup>.

Similarly in our study, although the rate of malignancy detected on routine histopathological examination was only 1%, which is consistent with others, it is still justified to review histopathologically all the specimens removed.

If the surgery is performed with the help of microdebrider, ideally a filter (trasheal trap) should be used to collect all the removed tissues which is easily available from the intensive care unit in most hospitals.

## CONCLUSION

The result of this study which is consistent with published data from established centres suggest that all nasal polyp specimens removed intraoperatively must be submitted for histopathological examination. Failure to do so may delay the proper treatment planned out with impending medicolegal issues.

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