

## ORIGINAL ARTICLE

# THE ROUTINE HISTOPATHOLOGICAL EXAMINATION OF TONSILLECTOMY SPECIMENS AT HOSPITAL UNIVERSITI SAINS MALAYSIA – A RETROSPECTIVE STUDY AND ITS IMPLICATION

Irfan Mohamad, Shahid Hassan, Rosdan Salim

Department of Otorhinolaryngology-Head and Neck Surgery,  
School of Medical Sciences, Universiti Sains Malaysia  
16150 Kubang Kerian, Kelantan, Malaysia

Tonsillectomy is performed for several indications, the two commonest in practice are infective (chronic tonsillitis) and obstructive symptoms such as sleep apnea. The objective of this study is to determine the necessity of routinely performed histopathological examination of tonsillectomy specimens. In this paper, a retrospective evaluation of 480 specimens from 241 patient who had undergone tonsillectomies in Hospital Universiti Sains Malaysia between January 2004 and October 2005 was done. It was found that 462 (96.25 %) were reactive lymphoid hyperplasia and 18 (3.75 %) were follicular hyperplasia. None of them were found to be malignant. The result of this study indicates that routine histopathological examination of tonsillectomy specimens are unnecessary and results only in added cost and a loss of man hours.

*Key words : Histopathology , tonsillectomy specimens*

Submitted-20-02-2004, Accepted-03-12-06

## Introduction

Tonsillectomy is defined as surgical removal of palatine tonsils. It is a long practiced procedure. Tonsillectomy is performed for a wide range of indications which can be divided into therapeutic , diagnostic and as an access for other procedures. The most common indication for tonsillectomy is infective cause. The other important indication for tonsillectomy is for an obstructive symptoms such as snoring and sleep apnoea. Regardless of the indication, tonsillectomy specimens are routinely sent for histopathological evaluation because of the concern that the tonsils might harbor malignancy.

As efforts are being intensified to reduce medical costs, especially in developing countries where patients often pay for their own healthcare, the necessity for this routine evaluation is now being questioned (2).

This study was undertaken to assess the outcome of histopathological examination in routine tonsillectomy surgeries.

## Materials and Methods

This is an observational ( retrospective ) study. All patients who had undergone tonsillectomy at Hospital Universiti Sains Malaysia between January 2004 and October 2005 were identified from the operation theatre registration book. The histopathological evaluation reports were reviewed from the patients' case notes.

Any patient with clinical suspicion of malignancy was excluded from the study.

## Results

A total of 241 patients age ranging from 2 to 64 years fulfilled our criteria and were included in this study. Majority of patients (68.1 %) were in the pre-school and school-going age. 46 % of the patients were males.

The most common indications for tonsillectomy in our study population were recurrent infection (64.3 %) and obstructive symptoms such as snoring and sleep apnea (34.9 %). One of the patient had unilateral tonsillar enlargement that

Table 1 : *Histopathological evaluation of the tonsillar specimens*

<b>Pathological diagnosis</b>	<b>No of specimens</b>	<b>Percentage</b>
Reactive lymphoid hyperplasia	462	96.25%
Follicular hyperplasia	18	3.75%
Malignant	0	0.00%

caused foreign body sensation during swallowing. One case of tonsillar cyst operated was also included in the series. None of the patients in our study population had clinical suspicion of malignancy.

All 480 tonsillar specimens were submitted for gross and microscopic histologic evaluation, as routinely performed in our hospital. The results of the motopathological evaluation is given in Table I.

## Discussion

Clinically, malignant tonsils are quite distinguishable from benign counterparts. From history and clinical examination alone, the clinician should be able to distinguish between benign lesion and suspected or malignant cases. The risk factors for malignancy are listed in Table 2.

It is a common practice to send tonsillectomy specimens routinely for histopathological

examination to screen for occult malignancy. Proponents suggest that among other reasons, missing an important diagnosis such as occult malignancy or granulomatous disease and possible medicolegal consequences argue in favor of routine histopathological examination.

Recently, more authors worldwide came up with study results which showed that specimens that was found to be positive malignancy was already diagnosed or at least suspected during consultation prior to the surgery. Microscopic examination of tonsil specimens generally correlates well with preoperative clinical impressions, and pathology findings rarely alter patient management (1).

Alvi and Vartanian (2) found only one malignancy in a pathologic review of 576 post-tonsillectomy specimens. This patient was from the older population study group with the mean age of 21.6 years. Beaty et al, in their retrospective review

Table 2 : *Risk factors for tonsillar malignancy*

<b>History</b>	<b>Examination</b>
Older age	Tonsil asymmetry
Smoking	Tonsillar lesion
Paan leaf/betel nut use	Neck mass
History of cancer	
Constitutional symptoms	

of adult (age 18 year and older) tonsillectomy tissue, found a higher rate of positive specimens: 25 malignant tumors in 476 samples. However, these 25 samples had been obtained from patients with several definite and identifiable risk factors that had already been detected prior to surgery. 23 of them have two or more risk factors, namely the asymmetric tonsil being the commonest and the age factor itself (3). Based on their findings, both authors recommended that evaluation be performed only on specimens of patients who had certain risk factors.

Williams et al (5) noted that three out of 4070 post tonsillectomy specimens were found to be malignant on histopathological examination and all of them were already diagnosed during pre operative consultation.

As the increase in age was described to be one of the risk factors, some authors specifically look into the paediatric age group patients who had undergone tonsillectomy. A review of 2743 post tonsillectomy specimens from paediatric patients revealed that none of the specimens were positive for malignancy (4). Yournis et al review of 2099 samples from pediatric patients who has undergone tonsillectomy were negative for malignancy (6). Both of these results showed that the routine histopathological examination of tonsillectomy specimens in paediatric patient were unnecessary.

In Malaysia, almost all general hospitals send tonsillectomy specimens for routine histopathological examinations. However, the study shows that routine histopathological examination of all tonsillectomy specimens is not justified. It should be restricted only to cases where there is clinical suspicion of malignancy.

## Conclusion

The result of this study, combined with evidence from our review of the literature, lead us to conclude that in the absence of clinical suspicion of malignancy, routine histologic examination of tonsillectomy specimens is not necessary, especially in paediatric age group patients.

## Corresponding Author :

Dr. Irfan Mohamad MD (USM)  
Department of Otorhinolaryngology-Head and Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan, Malaysia  
Tel: 609-7664498 Fax: 609-7653370

e-mail: [irfan@kb.usm.my](mailto:irfan@kb.usm.my)

## References

1. Mubasher Ikram, M Adil A Khan, Muneeb Ahmed, Tanya Siddiqui, Muhammed Yousuf Mian .The histopathology of routine tonsillectomy specimens: Results of a study and review of literature. *Ear, Nose & Throat Journal*. New York: Nov 2000.Vol.79, Iss. 11; pg. 880-881
2. Alvi A, Vartanian AJ. Microscopic examination of routine tonsillectomy specimens: is it necessary? *Otolaryngol Head Neck Surg*. 1998 Oct;119(4):361-3.
3. Beaty MM, Funk GF, Karnell LH, Graham SM, McCulloch TM, Hoffman HT, Robinson RA. Risk factors for malignancy in adult tonsils. *Head Neck*. 1998 Aug;20(5):399-403.
4. Erdag TK, Ecevit MC, Guneri EA, Dogan E, Ikiz AO, Sutay S .Pathologic evaluation of routine tonsillectomy and adenoidectomy specimens in the pediatric population: is it really necessary? *Int J Pediatr Otorhinolaryngol*. 2005 Oct;69(10):1321-5.
5. Williams MD, Brown HM. The adequacy of gross pathological examination of routine tonsils and adenoids in patients 21 years old and younger. *Hum Pathol*. 2003 Oct; 34(10):1053-7.
6. Younis RT, Hesse SV, Anand VK. Evaluation of the utility and cost-effectiveness of obtaining histopathologic diagnosis on all routine tonsillectomy specimens. *Laryngoscope*. 2001 Dec; 111(12):2166-9.
7. Strong EB, Rubinstein B, Senders CW. Pathologic analysis of routine tonsillectomy and adenoidectomy specimens. *Otolaryngol Head Neck Surg*. 2001 Nov;125(5):473-7