



ORIGINAL RESEARCH PAPER

Pathology

THE ROLE OF PATHOLOGIST IN TONSILLECTOMY SPECIMENS: A TIME SINK OR NOT

KEY WORDS:

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INTRODUCTION:

Chronic tonsillitis - A common inflammatory disease of childhood. Chronic tonsillitis is still considered as the commonest indication for tonsillectomy. In the present scenario, it is a common practice in most institutions to routinely take all tonsillectomy specimens for histopathological examination to evaluate infections or malignancy without assessing patients risk factors out of fear for medicolegal issues.

AIM OF THE STUDY:

The aim of the present study is to review the necessitude of histopathological examination of tonsillectomy or adenoidectomy specimens by assessing the risk factors of the patients.

CONCLUSION:

Histopathological examination for tonsillectomy and/or adenoidectomy specimens is not mandatory if there is no risk factor on preoperative evaluation of the pediatric and adult patients. Hence we conclude that in the presence of any preoperative risk factors, routine histopathological examination of tonsil or adenoid specimens is mandatory

Review Of Literature

Chronic tonsillitis - A common inflammatory disease of childhood. The incidence of tonsillitis peaks at 5 to 6 years of age though it can affect the extremes of ages below 3 years and above 50 years (1). Group A Beta Hemolytic Streptococci (GABHS) is the most common causative organism in tonsillitis (2). Chronicity is defined as either recurrent episodes of GABHS or a chronic carrier state of GABHS interspersed with overlapping viral pharyngitis. The treatment is dependent on the number of episodes of throat infection per year along with associated complaints like lack of weight gain (3) decreased scholastic performances (4) and sleep apnoea (5)

Chronic tonsillitis is still considered as the commonest indication for tonsillectomy (6) . Asymmetric tonsil is one of the definite indication for histopathological evaluation to rule out malignancy (7,8). Adenotonsillectomy is done in children with obstructive sleep apnea (9). In 1939, Starry had mentioned in his study that all tonsil specimens should be sent for histopathological examination (10). In 1965, Weibel also noted that histopathological evaluation could be excluded in children and that it should be done in older patients over 40 years of age as risk of malignancy in tonsils increases after this age (11).

In the present scenario, it is a common practice in most institutions to routinely take all tonsillectomy specimens for histopathological examination to evaluate infections or malignancy without assessing patients risk factors out of fear for medicolegal issues (12).

In the study by Strong et al. (13), it was showed that 67% of otolaryngologists send adult tonsillectomy specimens and

only 38% send pediatric tonsillectomy specimens for histopathological examination. A worldwide disagreement still persists on the relevance of histopathological examination of tonsil or adenoid specimens. Thus, the aim of the present study is to review the necessitude of histopathological examination of tonsillectomy or adenoidectomy specimens by assessing the risk factors of the patients.

METHODS :

A two year retrospective study was conducted in the 70 patients who underwent tonsillectomy, adenotonsillectomy and tonsillar biopsy whose specimens were received in the Department of Pathology, Karuna medical college, Palakkad, Kerala in the period from July 2017 - July 2019. Those cases with incomplete clinical history, known malignancy and other associated medical diseases were excluded from the study. Both specimens were processed and evaluated separately in the cases of bilateral tonsillectomy and adenotonsillectomy. The specimens were fixed in 10% formalin, processed routinely and embedded in paraffin wax. Adequate sections were cut, and stained with Hematoxylin and Eosin (H&E) for light microscopic examinations. The reports of the histopathological examinations were analysed regardless of age, sex, and indication for surgery.

RESULTS:

Table 1 : Age Wise Distribution Of Patients

AGE GROUP	NUMBER OF PATIENTS	PERCENTAGE
0 - 10	2	2.9 %
11 - 20	45	64.3%
21 - 30	19	27.1%
31 - 40	2	2.9%
41 - 50	1	1.4%
51 - 60	1	1.4%

70 patients were included in the study which is comprised of 32 children and 38 adults. The maximum cases belonged to the 11 - 20 age group. 60 cases had undergone bilateral tonsillectomy and remaining 10 cases had adenotonsillectomy. No cases of tonsillar biopsy were received in this period. The youngest age was 6 years and the eldest was of 55 years. There were 50 females and 20 males in the study.

Table 2: spectrum of clinical features

CLINICAL FEATURES	NO : OF PATIENTS (n)	PERCENTAGE (%)
RECURRENT SORE THROAT	50	71
SNORING	6	8.5
MOUTH BREATHING	20	28.5
HALITOSIS	9	12.8
TONSILLAR HYPERTROPHY	55	78.5
CERVICAL LYMPHADENOPATHY	1	1.4
UNILATERAL TONSILLAR HYPERTROPHY	1	1.4

TONSILLAR DISCOLORATION	2	2.8
WEIGHT LOSS	1	1.4

Most of the patients (78.5 %) presented clinically with tonsillar hypertrophy .Malignancy was clinically suspected in two patients who had unilateral and bilateral enlargement of tonsil and recurrent sore throat. Clinically, cervical lymphadenopathy and history of smoking was found in one patient. Prior to surgery, no tonsillar biopsies were sent for histopathological examination.

Table 3 :Histopathological Diagnosis

HISTOPATHOLOGY	NO : OF PATIENTS (n)	PERCENTAGE (%)
CHRONIC NON SPECIFIC TONSILLITIS	53	75.7
ACTINOMYCES	2	2.8
REACTIVE LYMPHOID HYPERPLASIA WITH CHRONIC TONSILLITIS	10	14.4
CHRONIC SUPPURATIVE TONSILLITIS	3	4.3
SQUAMOUS CELL CARCINOMA	1	1.4
NON HODGKINS LYMPHOMA	1	1.4

The commonest diagnosis was chronic nonspecific tonsillitis in 75.7% of cases. One patient who had preoperative risk factors like unilateral tonsillar hypertrophy, tonsillar discoloration, weight loss, cervical lymphadenopathy and history of smoking was diagnosed histopathologically as Squamous cell carcinoma and another one with asymmetrical bilateral tonsillar enlargement and tonsillar discoloration was diagnosed as Non Hodgkin lymphoma by histopathological examination. The first malignancy case was reported as squamous cell carcinoma in a 50 year old male with unilateral tonsillar hypertrophy and history of smoking (Figure 1). CT oropharynx showed a mass >2 cm in diameter with involvement of ipsilateral level 2 and 3 neck nodes. The second case was histopathologically diagnosed as Non Hodgkin Lymphoma in a 55 yr old female with bilateral asymmetrical tonsil enlargement (Figure 2). CT oropharynx revealed tumor mass >3 cm in diameter with ipsilateral level 2 neck nodes involvement. The percentage of malignancy was found to be 2.8% in total population and 5.3 % in adult population. Actinomyces are anaerobic, gram-positive, filamentous bacteria. Our study shows 2.8% of cases had actinomycoses infection.

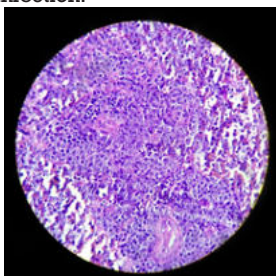


Fig No 1 Squamous Cell Carcinoma

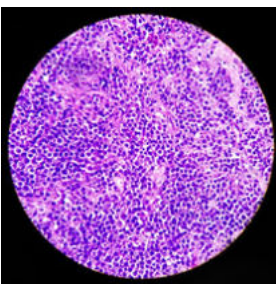


Fig No 2 Non Hodgkin's Lymphoma

DISCUSSION :

Although histopathological examination is a routine after tonsillectomy and/or adenoidectomy, a debate still persists about whether histopathological examination should be mandatory in all the cases. It is controversial as the chance for a significant pathological finding in the specimens is not trivial. Adequate criteria and guidelines which are relevant to the specific population necessary to identify such patients who are at risk and determine whether adenotonsillectomy specimens are necessary for histopathological examination.

In the study performed by Younis et al. (14), malignancy could not be detected in 2099 pediatric tonsillectomy specimens and malignancy was detected in 40 out of 339 adult tonsillectomy specimens. Most of them were diagnosed to have squamous cell carcinoma. In our study, only two patients had malignancy. Mohamad et al. (15) set down the risk factors for malignancy as old age, patient with history of smoking, chewing paan, leaf/ betel nut, history of cancer and constitutional symptoms; associated with clinical findings such as tonsil asymmetry, tonsil lesion and neck mass which are similar to the findings of Adoga et al. (16). Özbay et al. (17) reviewed 2004 patients and only one malignancy was reported with risk factor of asymmetric tonsillar hypertrophy, cervical lymph node and weight loss. The incidence of unexplained malignancy in tonsil and adenoid specimens varies between 0% to 1% in both children and adults (18, 19).

Although it is believed that actinomyces are not a precursor for an active infection of the tonsils, it is considered that they play a significant role in the etiology of tonsillar lymphoid hyperplasia (20). In our study, no malignancy was detected in the pediatric patient group. In various literatures, large-scale studies also revealed similar rates (0%, 0.07%, 0.17%, and 0%) (14,21,22,23).

One of the main reason for studies whether tonsil and adenoid specimens should be examined histopathologically is the fact that there is a debate on the cost and the loss of labour power. Bizzell et al. (24) in his study, examined tonsillar specimens for 10 years and it was seen that macroscopic examination has increased proportionally in recent years, and microscopic examination has decreased gradually.

If a patient has preoperative risk factors, histopathological evaluation of tonsil and adenoid specimens is mandatory and should not be ignored. Most surgeons no longer recommend histopathological examination for all routine cases of adenotonsillectomy specimens (15,16,25). Many researchers have found that the histopathological examination of routine adenotonsillectomy specimens especially in the pediatric age group is not recommended because it does not change the clinical course of management of the patients (26). Our study detected malignancy in adults only and all these patients had preoperative risk factors. Pediatric patient had no abnormal or unexpected histopathological diagnosis. Thus, it suggests that histopathological examination for routine adenotonsillectomy specimens is not necessary especially in pediatric age group.

The results of the present study and many other studies suggest the fact that histopathological examination should be done in the presence of risk factors in tonsillectomy and/or adenoidectomy especially in children (27,28). Therefore, this rule can be rearranged according to existing scientific information in order to decrease cost and human labor.

CONCLUSION

Histopathological examination for tonsillectomy and/or adenoidectomy specimens is not mandatory if there is no risk factor on preoperative evaluation of the pediatric and adult patients. Preoperative risk factors must be evaluated well in the adult age group and histopathological examination should be done accordingly. Hence we conclude that in the presence of

any preoperative risk factors, routine histopathological examination of tonsil or adenoid specimens is mandatory. However, routine histopathological examination of adenoidectomy/ tonsillectomy is still practiced because clinicians fear the possibility of legal action for missing diagnosis.

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