ORIGINAL ARTICLE

Routine Histopathological Examination in Patients of Adenotonsillectomies: Evaluation of Its Necessity

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Abstract

Background: Tonsillectomy and/or adenoidectomy is a common otolaryngologic surgical procedure. The histopathological examination (HPE) of excised tissue after these surgeries is controversial. The study aimed to evaluate the necessity of histopathological analysis of excised tonsils.

Methods: The prospective study was performed between January 2017 and December 2018 on HPE results of 200 patients including children and adults, who had adenotonsillectomy in the Department of ENT at the tertiary care center, Kolhapur.

Results: A total of 400 HPE results from 200 patients (150 children, 50 adults) were included in the study. HPE of all the excised samples was detected with submucosal hyperplastic lymphoid follicles, reactive germinal centers, and bacterial colonies in crypts. No malignancy was detected.

Conclusion: Histopathological evaluation of excised tonsils is not necessary in the absence of associated risk factors.

Clinical significance: The incidence of malignancy in excised tonsils or adenoids is very rare; therefore, routine histopathological examination is not necessary except in patients with associated risk factors. This will help reduce unnecessary costings and labor.

Keywords: Adenoidectomy, Histopathology, Malignancy, Tonsillectomy.

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Introduction

Recurrent tonsillitis and obstructive sleep apnea in children and chronic tonsillitis in adults are the most common indications of tonsillectomy and/or adenoidectomy, which are commonly performed interventions.[1,2] Histopathological examination (HPE) of excised tonsils is done to analyze either suspicious material for malignancy or medicolegal documentation.[3]

There is no agreement on whether benign tonsil and adenoid specimens should be examined histopathologically.[1] Studies show the rate of unexpected malignancy is very low in pediatric patients,[4,5] whereas increased rates of malignancy in tonsils in the adult with tonsillar asymmetry, history of head and neck cancer, and tonsillar lesions suggest routine histopathological examination. The incidence of malignant pathologies in adults is 2–10%.[6,7] The utility of HPE after tonsillectomies is therefore controversial. Several investigators believe that clinical examination and identification of preoperative risk factors should guide the necessity of HPE. The study aimed to evaluate the necessity of histopathological analysis of excised tonsils.

Materials and Methods

The prospective study was performed on patients who had undergone adenotonsillectomy and HPE from January 2017 to December 2018 in a tertiary care center at Kolhapur, Maharashtra, on 200 patients (150 children, 50 adults). Ethical approval from the institutional ethical committee was obtained prior to initiation of the study. Patients diagnosed with chronic recurrent tonsillitis with residual congestion of anterior pillars and appearance of cheesy material from tonsils, if pressed (Ivan Moore's sign), were included in the study. Adenoidectomy if indicated, followed by tonsillectomy (Dissection and Snare method), was performed. Excised samples were stored and treated according to standard protocol for histopathological examinations.[8]

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Results

In a total of 200 patients (150 children and 50 adults), a higher number of males were seen (n = 115). The youngest patient was a 5-year-old male child, and the oldest was a woman aged 39 years (Table 1). Most of the patients (n = 155) underwent adenotonsillectomy, while the remaining (n = 45) underwent only tonsillectomy. The smallest dimension of tonsil studied was $1 \times 0.5 \times 0.5$ cm^3, and the largest was $3 \times 2 \times 1$ cm^3 (Fig. 1). HPE of all the excised tonsils showed submucosal hyperplastic lymphoid follicles (SHLFs) and reactive germinal centers (RGCs) (Fig. 2). No malignancy was detected.

Discussion

The histopathological analysis helps in patient care, treatment, health insurance, medicolegal documentation, and education purposes, and it also confirms presumed diagnosis. In adenotonsillectomy, the use of HPE is controversial in excised tonsils due to its necessity.[9] The study aimed to evaluate the necessity of histopathological analysis of excised tonsils.

Table 1: Demography of the patients

Variables	*No. of patients*
Age-groups	
<10	95
11–20	74
21–30	28
31–40	3
Gender	
Male	115
Female	85
Stages	
Children	150
Adult	50

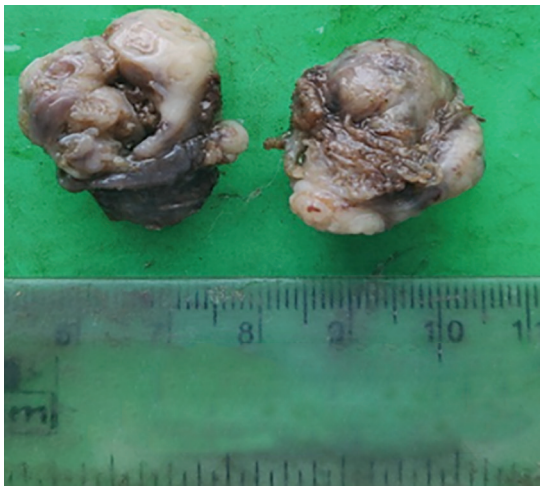

Fig. 1: Gross appearance of excised tonsils

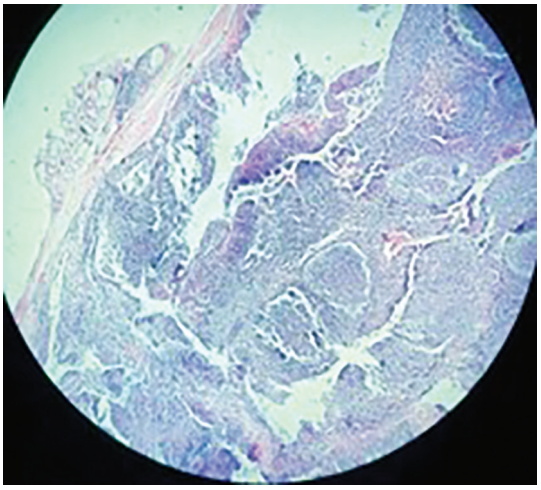

Fig. 2: Microscopic appearance of excised tonsils (HPE)

The study of Strong et al. emphasizes that pediatric tonsillectomy should undergo histopathological examination especially in clinical impressions such as tonsillar asymmetry, mucosal changes, night fever, and cervical lymphadenopathy.[10] The incidence of tonsillar malignancy is higher in adults than in children due to smoking, alcohol, and environmental factors.[1] Beaty et al. analyzed 476 consecutive adult tonsillectomies and suggested risk factors for tonsillar malignancy including the history of head and neck cancer; tonsillar asymmetry; hard consistency/visible lesion on the tonsil; the presence of a neck mass; unexplained weight loss; and other constitutional symptoms.[13] Younis et al.[12] in 2001 conducted a retrospective review of 2,438 histopathological reports of tonsillectomy specimens wherein 2,099 were pediatric patients and 339 were adult patients. No malignancy was found in pediatric cases. However, 40 adult patients were found to have malignancy, who were suspected risk factors preoperatively by history and clinical examination. In this study, no risk factors and malignancy were observed in any of the study patients.

Actinomyces are anaerobic, gram-positive, filamentous bacteria, which can be present in tonsillar specimens but are not responsible for active infection of the tonsils. Actinomyces play crucial role in the etiology of tonsillar lymphoid hyperplasia.[13–15] However, no actinomycetes were found in excised tonsils.

The necessity of HPE of excised tonsils is in debate because of its cost, loss of labor, and time consumption. The findings of the study do not show the need for HPE in the absence of associated risk factors. This is in concordance with similar studies.[1,7–17]

Conclusion

HPE after adenotonsillectomy is not necessary if there are no risk factors associated with the preoperative evaluation of both pediatric and adult patients.

Clinical Significance

The incidence of malignancy in excised tonsils or adenoids is very rare; therefore, routine histopathological examination is not necessary except in patients with associated risk factors. This will help reduce unnecessary costings and labor.

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