

Routine Histopathological Analysis of Pediatric and Adult Tonsils

¹K Shoba, ²B Harikumar, ³P Jayaganesh, ⁴K Srinivasan

ABSTRACT

Introduction: Making a protocol is a must to overcome the controversy of doing routine histopathological examination of tonsillectomy specimen.

Materials and methods: Histopathological report of 100 consecutive tonsillectomy specimens that reached the pathology department of Saveetha Medical College was analyzed.

Results: Histological examination of the 154 pediatric tonsils showed reactive lymphoid hyperplasia in all the patients. One specimen had a small cartilaginous choristoma. In the 46 adult tonsils, there were two lymphoma, one extensive osteocartilaginous choristoma, and one epidermoid cyst of tonsil.

Discussion: As the histopathological examination in the pediatric group did not reveal any finding, it can be done only in patients with risk factors. The adult group showed two cases of Hodgkins lymphoma, one epidermoid cyst of tonsil and one osteocartilaginous choristoma tonsil. Hence, we suggest to continue the practice of routine histopathological analysis in adults.

Conclusion: We suggest continuing the practice of routine histopathological examination of all adult tonsillectomy specimens.

Keywords: Adult, Histopathology, Pediatric, Tonsil.

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INTRODUCTION

Tonsillectomy was first performed by Cornelius Celsus in the first century BC. It is one of the most common and oldest procedures done by an ENT surgeon. The indications are wide, including diagnostic, therapeutic, and as an approach to deeper structures. Cost of medical treatment and medicolegal issues have created controversy as to whether routine histopathology is a must or not.

Making a protocol for histopathological examination is a must to avoid this controversy.

AIMS

We aim to study histopathological features of 100 consecutive tonsillectomy specimens that reached the pathology department of Saveetha Medical College and to study the presence of various pathologies in pediatric and adult study group.

MATERIALS AND METHODS

In total, 100 consecutive tonsillectomy specimens that reached the pathology department of Saveetha Medical College were included in this study. The clinical information of these patients was collected. The specimens were examined under light microscope after hematoxylin and eosin staining. The findings were recorded. Chronic tonsillitis, keratosis tonsil, and tonsillar cyst were the indications for surgery. Their histopathology reports were analyzed.

RESULTS

Out of the 100 tonsillectomy patients, 58 were male and 42 female. Twenty-three patients were adults with ages varying from 18 to 60 years. The pediatric group had 77 patients with ages ranging from 4 to 17 years. All 77 pediatric patients underwent tonsillectomy for chronic tonsillitis. Histological examination of the 154 tonsils from this group showed reactive lymphoid hyperplasia in all the patients. Only one patient had a small cartilaginous choristoma of tonsil.

Among the adult group, 20 patients came with chronic tonsillitis, 2 had tonsillar cyst, and 1 had keratosis tonsil. Histopathology examination of the 46 adult tonsils showed two lymphomas, one extensive osteocartilaginous choristoma, and one epidermoid cyst of tonsil.

Two tonsil specimens showed Hodgkin's lymphoma: One in a 46-year-old male and the other in a 60-year-old female.

Patient with keratosis tonsil had extensive osteocartilaginous choristoma. Epidermoid cyst presented with tonsillar cyst.

DISCUSSION

Palatine tonsils are a part of inner Waldeyer's ring and are present in the lateral wall of the oropharynx. They are

¹⁻³Associate Professor, ⁴Professor

^{1,2,4}Department of Otorhinolaryngology, Saveetha Medical College, Chennai, Tamil Nadu, India

³Department of Pathology, Saveetha Medical College, Chennai Tamil Nadu, India

Corresponding Author: K Shoba, Associate Professor Department of Otorhinolaryngology, Saveetha Medical College Chennai, Tamil Nadu, India, Phone: +919884467115, e-mail: shobasridhar@gmail.com

lined by nonkeratinized stratified squamous epithelium on the medial aspect. The epithelium forms multiple crypts that invaginate into the parenchyma. The parenchyma is made of lymphatic tissue with germinal centers for B-lymphocyte production. On the lateral aspect is a dense fibrous tissue capsule that separates the tonsil from deeper structures. Tonsil develops from the second pharyngeal pouch, epithelium develops from the ectoderm, and lymphoid tissue from the mesoderm.¹

In our study, histological examination of 154 pediatric tonsils showed no evidence of malignancy or tuberculosis. In a study done by Brien² in 2010, malignancy was diagnosed in 0.026% of pediatric patients. After review of literature, we concluded that histopathological examination in pediatric group can be done only in patients with risk factors, such as unilateral enlargement of tonsil, lesion in tonsil, firmness of tonsil, neck mass, history of cancer, unexplained loss of weight, and constitutional symptoms.^{3,4}

Out of the 46 adult tonsils collected from 23 patients, two cases of Hodgkin's lymphoma were noted. Histopathology in both the patients showed features suggestive of Hodgkin's lymphoma. The incidence is very high in our group. Both the patients presented with chronic tonsillitis and had no risk factors. Beaty⁵ in 1998 recorded 25 malignancies out of the 476 adult tonsillectomy specimens. However, all 25 patients had at least one risk factor as in pediatric patients. In the study done by Papouliakos⁶ in 2008, the incidence of malignancy in pediatric and adult tonsillectomy specimen was 0.13 and 2.04% respectively. In the study done by Booth⁷ in 2013, the incidence of tonsillar malignancy in routine tonsillectomy was 1.2% in adult and 0.52% in pediatric patients. All these studies show a higher incidence of tonsillar malignancy in routine adult tonsillectomy specimen similar to our study. Though our adult group was small, review of these literatures also suggest further evaluation of routine histopathology of adult tonsil before discontinuing the same.

One patient who presented with keratosis tonsil had extensive osteocartilaginous choristoma. Choristoma is a histologically normal tissue in abnormal location. Cartilaginous choristoma in tonsil has been recorded.¹ Osteo-cartilaginous choristoma is very rare in tonsil.

Epidermoid cyst of tonsil is the other rare finding. Patient had recurrent infection of epidermoid cyst and presented as tonsillar cyst.

This inference points out to continue the practice of routine histopathological analysis of all adult tonsillectomy specimens.

CONCLUSION

Some centers still do histopathology of all specimens, whereas others do not. Though cost-effectiveness of routine tonsillectomy is high, there are still many hidden entities that are discovered with every study. Further studies are required to correlate these benign findings with recurrent tonsillitis. However, in our study, we have not identified any occult malignancy in pediatric age group at least. Histology of adult tonsil in our study has revealed many interesting findings. Hence, we suggest continuing the practice of histopathological examination of all adult tonsillectomy specimens.

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