

Rethinking the value of sending tonsil specimens for histopathological examination

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Abstract

Background: Tonsillectomy is one of the most common surgical procedures performed in children, also done in adults when indicated. It is either done alone or combined with adenoidectomy. As a routine in ENT surgeries, we subject the tissue specimens for histopathological examination. **Aims and Objectives:** To evaluate the incidence of unexpected histological diagnosis in tonsil specimens removed after tonsillectomy. Also to know the cost effectiveness and financial burden of histopathology on tonsil specimens. Is it really required **Materials and Methods:** It is a retrospective study wherein 150 patients who underwent tonsillectomy were studied. A total of 300 tonsils from 150 patients were screened from past medical records during a one year period of Jan 2016 to Jan 2017. All cases belong to our institute, Bhaskar Medical College/ General Hospital, Yenkapally village, Moinabad belt, Telangana. **Results:** Out of 150 patients, 43.33 % were males and 56.66% females. From this, we had a total of 118 children i.e. 78% and 32 adults i.e. 22%. Maximum number of patients belong to the age group 1- 10 years (58.66%) and least in the age group of 41-50 years (0.66%). 95% of the tonsil specimens showed follicular or lymphoid hyperplasia. 5% were with added inflammation. 2% of the adult tonsils showed fibrosis. 1 case (0.6%) of tonsillar cyst seen and 2 cases (1.2%) of tonsilloliths seen in our study. No evidence of actinomycetes colony or presence of any malignant cells. **Conclusion:** From our study, we conclude that the histopathological examination of tonsil specimen post tonsillectomy is majorly for legal or ethical issues i.e. as an evidence to claim later that the tissue removed during surgery was nothing but tonsil. So, the routine screening of tonsil specimen, as we all authors agree, is not required unless preoperatively indicated. It can save time, money and will lessen the burden on pathologist.

Key Words: Palatine tonsil, tonsillectomy, follicular hyperplasia, histopathology, lymphoid tissue.

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INTRODUCTION

Tonsillectomy is one of the most common surgical procedure in children, also done in adults when indicated. It is either done alone or combined with

adenoidectomy.^{1,2} The current widely accepted criteria for surgery, which have been arrived at arbitrarily, are of the order of seven episodes of tonsillitis in the preceding year, five episodes in each of the preceding two years or three episodes in each of the preceding three years^{3,4,5} with any obstructive symptoms (sleep apnea /dysphagia), children with recurrent middle ear infections and rheumatic heart disease. In symmetrically enlarged tonsils with normal and intact mucosa, there is less than 0.13 percent risk, which accounts for very less number. Statistically to detect one case of occult malignancy in tonsil, 7694 tonsils has to be examined microscopically.⁶ Several studies support the view of subjecting both adults and children's tonsil specimens in only those with known risk factors and pre operative clinically evident symptoms or signs. In children, reported figure for unexpected

tonsillar malignancy range from 0 to 0.1 percent.^{3,7} Risk Factors for malignancy include older age, history of smoking/ tobacco chewing/ betel nut chewing, history of cancer and constitutional symptoms. On examination, asymmetrical tonsil, tonsillar mass and neck mass raises a suspicion of malignancy.

MATERIALS AND METHODS

A total of 300 tonsils from 150 patients both adults and children were included in the study. This is a retrospective type of study done at ENT HNS Department of Bhaskar Medical College/General Hospital, Yenkapally village, Moinabad, Telangana State, India. 150 patients were included in the study who underwent tonsillectomy at our hospital over the period of 1 year Jan 2016 – Jan 2017. As a routine in our hospital, regardless of the indication, all tissue specimens from operation theatres post surgery are sent to pathology department for microscopic examination.

OBSERVATIONS AND RESULTS

Out of 150 cases in the present study, children were 118 (78%) where as adults compromised 22%. Females were 56.66% where as males 43.33%.

Table 1: Sex distribution:

| | Percent |
|--------|---------|
| MALE | 43.33% |
| FEMALE | 56.66% |

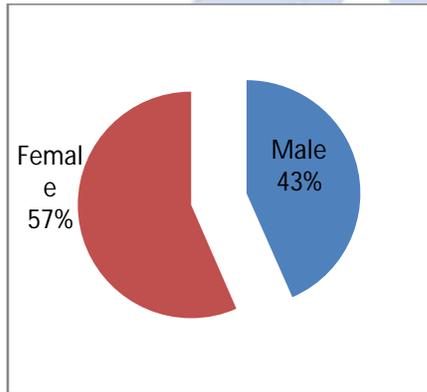


Figure 1: Showing pie diagram showing sex distribution

Table 2: Age-wise distribution

| | Percent |
|----------|---------|
| Children | 78% |
| Adults | 22% |

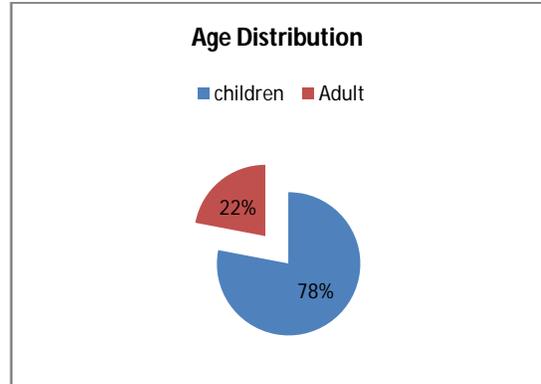


Figure 2: Showing age wise distribution

Patients undergoing tonsillectomy were mostly in the age group of 1- 10 years (58.66%) and 11- 20 years (29.33%). Least in the age group 41-50 years, only one patient (0.66%).

Table 3: Age distribution

| In years | Percent |
|----------|---------|
| 1-10 | 58.66% |
| 11-20 | 29.33% |
| 21-30 | 6.66% |
| 31-40 | 4.66% |
| 41-50 | 0.66% |

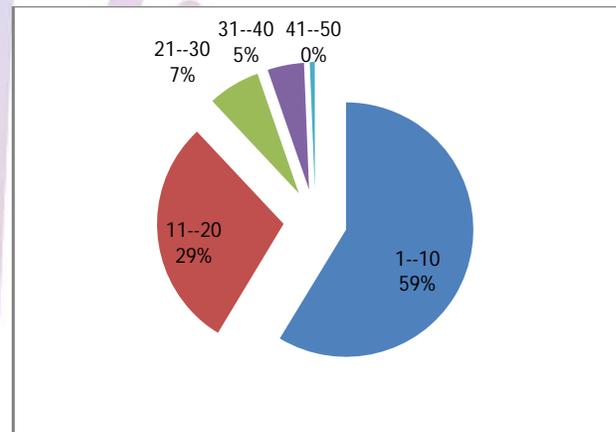


Figure 3: Showing age distribution

Under microscopic examination, 95% of the tonsil specimens showed reactive lymphoid hyperplasia or follicular hyperplasia with squamous epithelium. In 5% of cases, there was added inflammation 1 case of tonsillar cyst showed cyst wall lined by epithelial cells with no suspicion of malignancy in cyst. 2 cases of tonsilloliths seen. Adult tonsils showed fibrosis in 2% of the cases. No colonies of Actinomycetessp seen over tonsil tissue. No evidence of any malignant cells.

Table 4: Pathology findings

| Reactive lymphoid hyperplasia or Follicular hyperplasia | 95% of cases |
|---|-------------------------|
| With acute inflammation | 5% of cases |
| Tonsilloliths | 1.2% of cases (2 cases) |
| Tonsillar cyst | 0.6% of cases (1 case) |
| Fibrosis | 2% of adult tonsils |
| Colonies of Actinomyces | Nil |
| Sp. or any other organism | |
| Any evidence of malignancy | Nil |

DISCUSSION

There is lot of controversy regarding the microscopic examination of the tonsil specimens, to send or not for the histopathological studies. In our study with 150 patients, majority were female and children. Females (56.66%) were slightly more in comparison to males (43.33%). This correlates with the studies done by Ekirli⁸ and Adoga *et al*⁹. Majority of the patients belonged to the age group 1- 10years (58.66%) and 11-20 years (29.33%). Like other studies, our patients belong mostly to the pediatric age group.¹⁰ 95% of the 300 tonsils screened microscopically showed lymphoid or follicular hyperplasia with 5% with inflammation^{11,12}. 2% of the adult tonsils showed fibrosis, which explains each attack of tonsillitis healing with fibrosis. 2cases of tonsilloliths and 1 case of tonsillar cyst were among our cases. They were subjected to histopathology too, which under microscope showed cyst wall lined with squamous epithelium and no evidence of any suspicious material in the cyst and no significant finding in tonsillolith. No tonsils showed colonies on Actinomyces sp. on its surfaces and crypts, which was stressed upon pathologist by us to see for any colonies by any organisms.¹³ There was no evidence of any malignant cells seen in our study, in accordance to the study done by Younis *et al*⁷. All tonsils showed no malignancy preoperatively (clinically) and histopathologically. Oluwasanmi *et al*¹⁴ recommended that histopathological analysis of tonsillectomy specimens is necessary for patients with no history of recurrent tonsillitis but those with large asymmetrical tonsils and over 40 years of age. Thorne¹⁵ who found no malignancy among 5,235 specimens of tonsillectomy material, claimed that the routine analysis of pediatric tonsillectomy specimens is an unnecessary expense. As we all authors agree that its nevertheless important in case of medicolegal implications, in case an important pathological diagnosis is missed¹⁶. However criteria should be laid and implemented before sending the specimens for histopathological examination.

CONCLUSION

From the above data collected in our study, we came to a conclusion that

1. Histopathological examination of tonsil specimens can be done on legal or ethical grounds. As histopathology provides an evidence that the tissue removed is nothing but tonsil, as done in cases of tubectomies and vasectomies, wherein it is proved microscopically and hence the surgeon is saved from legal issues later.
2. All tonsils need not be screened routinely. It has low cost benefit ratio with burden on patient and pathologist. It has to be screened microscopically only in high risk individuals and patients with preoperative clinical signs and symptoms..

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