Frequency of Malignancy in Asymptomatic Unilateral Enlarged Tonsil

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Abstract

Background: To determine frequency of malignancy in unilateral enlarged tonsil (UET) in different age groups without any other clinical feature.

Method: In this descriptive cross sectional study patients (n=70) who underwent tonsillectomy, for tonsil asymmetry, were included. Group I, patients were of 3-12 years and in group II, were of 13 and above. All the patients were assessed clinically for regional (otolaryngology) and systemic disease. After tonsillectomy, difference in tonsils size was recorded on gross pathology, then specimens were sent for histopathology.

Results: In group I, 40 patients were of age 3 to 12 years. Clinically mild difference (+1) was noticed in 13(32%), moderate (+2) in 20 and marked in 13(32%) in +2 and in 6 (15%) in +3, average was(19/40, 47.5%). Histopathology was either normal histology or reactive hyperplasia. None of tonsil revealed any type of malignancy. In group II 30 patients were of 13-56 years of age. Mild difference (+1) was in 5(16.66%), moderate (+2) was in 19(63.3%) and marked was in 5(16.66%). In gross pathology no difference was noticed in both tonsils in +1(<5mm), 5-10 mm difference was noticed in +2 and >10 mm difference was noticed in +3 in all cases. Average was 83.3 %(25/30). Histopathology was unremarkable except in one, B cell lymphoma. Average was 3.3% (1/30).

Conclusion: In unilateral enlarged tonsils, no malignancy was found in paediatric group, while in adult group one patient showed malignancy (Lymphoma).

Key Words: Unilateral tonsil enlargement

Introduction

Tonsils are encapsulated collection of lymphoid tissue in lateral wall of oropharynx. Unilateral enlarged tonsil may result from infection, chronic inflammatory response or neoplasm. Tonsil asymmetry may only be apparent in otherwise normal individuals due to anatomical factors. Currently frequency of carcinoma in asymmetrical tonsil with normal mucosa is unknown. The study aims to assess the frequency of carcinoma in patients with UET both in children and adults. Removal of tonsil for histopathological purposes to rule out malignant tumour in asymmetric tonsil is one of the definite indication for surgery. It has been standard practice to perform diagnostic tonsillectomy to exclude malignancy when tonsillar asymmetry is encountered. Apparent unilateral tonsillar enlargement is often spurious and many unnecessary tonsillectomies are performed when UET is taken as indication for surgery in the absence of any other suspicious feature. Present study will show how much is important and beneficial of doing tonsillectomy when indication is only asymmetry without clinical features.

Patients and Methods

This descriptive cross sectional study was performed in Social Security Hospital Islamabad (allied with Islamabad Medical and Dental College), from July 2006 to July 2012. Total of 70 patients were studied who underwent tonsillectomy for purpose of histological examination with only indication of unilateral enlarged tonsil. Patients were divided into two groups according to their age. In group I, pediatric group we included (3-12 years of age). In group II, adults (13 years and above) were included. All the patients were assessed clinically for chronic sinusitis, recurrent tonsillitis, and ulcers over the tonsils, chronic nasal obstruction, dysphagia, any neck swelling, and any significant cervical lymphadenopathy and systemically like long standing fever and hepatosplenomegaly. Only those patients incidentally diagnosed with UET were included in study for biopsy purposes. Patients who themselves came for tonsil asymmetry were also included. Exclusion criteria included patients with no preoperative notes, where histological reports were not available, and patients having any of clinical features mentioned above, immunocompromised patients, who had malignancy at other sites already diagnosed and patients who had received radiotherapy. Any difference noticed between
right and left sides was considered asymmetric. Patients’ age, gender, right (R) and left (L) tonsil asymmetry in size, neck examination, pathological results and actual measured size of each tonsil on gross pathology (width, depth and height). Clinically enlarged tonsils were kept in three level; mild difference (+1), moderate difference (+2) and marked difference (+3). After doing bilateral tonsillectomy, difference between two sides was recorded on gross pathology, then tonsils were sent for histopathology.

Results

In group I number of patients were 40, age ranged from 13-12 years, mean age was 7.5. 25 (62%) were male, 15 (43%) were female. Mild difference (+1) was noticed in 13(32%), 5 on right(Rt) and 8 on left(Lt) side, moderate (+2) in 20 (50%) 15 on Rt side and 5 on Lt side. Marked difference (+3) was in 7(17.5%). All were of Lt side (Table I). In gross pathology after doing tonsillectomy, no difference was noticed in volume, height, width and length in +1 cases (0%), only in 13 (32%) in +2 and in 6 (15%) in +3, average is (19/40, 47.5%), difference in size in +2 was between 5-10mm, and in +3 cases was>10mm. T test was applied for clinically enlarged tonsils and actual tonsil size in gross pathology, P value < 0.05. Total average of difference in size in all cases was 47.5% (Table I). Histopathology of all tonsils specimens showed either normal histology or reactive hyperplasia. None of tonsil revealed any type of malignancy. In group II number of patients was 30. Age ranged between 13-56 years, mean was 34.5 years. 21(70%) were male, 9(30%) were female. Mild difference (+1) was seen in 5(16.66%); 3 on Rt and 2 on Lt side. Moderate(+2) difference was in 19(63.3%); 9 on Rt and 10 on Lt, and marked was in 20(66.6%); 9 on Rt and 11 on Lt(Table I). In gross pathology no difference in tonsil size in +1(≤5mm), 5-10 mm difference was noticed in +2 and >10mm difference was noticed in +3 in all cases. Average was 83.3 % (25/30) (Table I). T test was applied, p value >0.05. Histopathology of enlarged tonsil was unremarkable except in one. This was from +3 group and B cell lymphoma, average was 3.3% (1/30). Chi-square test was applied for frequency, results were insignificant.

Discussion

Although unilateral enlargement results from repeated tonsillitis, chronic tuberculosis, benign and malignant tumours but it may also be due to anatomical variations with changes in tonsillar fossa depth or asymmetric anterior pillars. It is common finding during clinical otolaryngological examination.10,11 Unilateral tonsillar hypertrophy is presumed to be neoplastic according to the American Academy of otolaryngology.12 If tonsillectomy is being done to evaluate a tonsil for malignancy, the validity of physical examination to assess asymmetry needs to be established.5 Present study determines whether clinically assessed asymmetry is significant, when tonsil size is measured in gross pathology after tonsillectomy.

Actual tonsillar hypertrophy in gross pathology after tonsillectomy was more significant in adults as compared to children. In children it may be due to anatomical variation with changes in tonsillar fossa depth. Our study is comparable with one study performed in adults above 18 years of age with UET. 46 patients were assessed for UET, 28 out of 49(57.14%) showed actual difference in size when measured in gross specimens.5 It was noticed that pathological enlargement is usually seen in +2 and +3. No difference was seen in clinical and pathological enlargement in +1 cases. It is also proved in previous studies.5 In another study, 47 children with tonsil asymmetry were studied. No statistical difference in degree of asymmetry was found on clinical and pathological examination (p=0.5). A difference in depth of tonsillar fossa was identified.13 More accurate methods to assess the size of tonsil is CT scan. After confirming the size of tonsil with CT scan clinician will be better able to counsel the patients regarding need to undergo tonsillectomy.5

Primary malignant tumour of tonsil represents 12% of oral cavity neoplasm. Secondary malignancy is rare. Squamous cell carcinoma accounts for 85-95% of tonsillar malignancies. Lymphomas (10-15%), they are most common malignant tumour of paediatric age group.14,15 Squamous cell carcinoma usually present with ulcer over the tonsil and UET, lymphoma usually with UET without ulceration of mucosa and with painful cervical lymphadenopathy.14 Risk factors associated with malignancy in children with tonsillar
asymmetry are presence of enlarged cervical lymph node and abnormal appearance of tonsil.\textsuperscript{16, 17}

In our study the only indication of tonsillectomy was tonsillar asymmetry and none of the case showed any malignancy in children but in adults one patient with UET and intact mucosa showed B cell lymphoma without cervical lymph node enlargement and any systemic symptoms. In one retrospective study 33 patients with UET, none of patients was found to have malignancy.\textsuperscript{5} In a study 476 patients with UET underwent tonsillectomy, 25 patients were found to have malignancy but it was seen that 23 patients had two or more risk factors and two patients had one risk factor.\textsuperscript{13} Incidence of malignancy in tonsils which exhibit asymmetry with no other clinical features is very low. In our study it is zero in children and 3.3% in adults. Tonsillectomy itself carries risks so physician must weigh the discomfort and risks associated with tonsillectomy against risk of malignancy not being diagnosed.\textsuperscript{13}

Results also indicate that presence of certain preoperatively identifiable risk factors associated with malignancy such as mucosal ulceration, abnormal appearance of tonsil, cervical lymphadenopathy, progressive enlargement of tonsil and systemic symptoms must be considered for diagnosis.\textsuperscript{17} Further absence of malignancy in tonsillectomy specimens of patients with UET does not rule out loco-regional primary lymphoma. Tonsillar enlargement may be reactive response to nearby tumour.\textsuperscript{14} An alternative approach to diagnose tumour without doing tonsillectomies is positron emission tomography (PET) imaging; that is detection of foci of increased glycolysis which is an important sign of tumour metabolism.\textsuperscript{14} In the absence of these facilities close observation is essential.

**Conclusion**

1. Although tonsillectomy in UET is easier method to rule out malignancy, physician must compare the risks associated with tonsillectomies with risks of undiagnosed malignancy.
2. By using CT scan and PET, unnecessary tonsillectomies can be avoided

**References**