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Original Research Article

Various Spectrum of Lesion in Palatine Tonsil Underwent for Tonsillectomy in Tertiary Care Center

Kaushal K Krajapati[1], Vaibhavi K Prajapati[2], Hemlata B Sunsara[3], Hardika B Patel[4]

[1]Assistant Professor, Department of Otorhinolaryngology, Banas Medical College and Research Institute, Palanpur, Gujarat

[2]Senior Resident, Department of Microbiology, Banas Medical College and Research Institute, Palanpur, Gujarat

[3]Consultant Microbiologist, Civil Hospital, Deesa, Gujarat

[4]Assistant Professor, Department of Otorhinolaryngology, Banas Medical College and Research Institute, Palanpur, Gujarat

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Corresponding author: Dr Hardika B Patel

Conflict of interest: Nil

Abstract:

Background and Aim: The palatine tonsils are paired masses of lymphoid tissue that serve as an immune barrier against pathogenic substances entering the respiratory and digestive tracts. Tonsils, despite their defensive function, are susceptible to infection. This study was carried out to investigate the clinicopathological findings of diverse palatine tonsil lesions that had tonsillectomy in various age groups.

Material and Methods: For one and a half years, a cross-sectional study was undertaken in the Department of ENT at Tertiary Care Institute of India. The cases included were from various age groups, ranging from children to the elderly, and had recurring occurrences of Acute Tonsillitis. A total of 84 cases were operated on, with tonsillectomy performed in 80 cases (unilateral-12, bilateral-68), and tonsillar biopsy performed in 03 cases. The available data for all patients in terms of age, gender, and clinical symptoms was gathered.

Results: The most common age group afflicted in all cases of chronic tonsillitis is 21-30 years, accounting for 36.25%, followed by 31-40 years, accounting for 28.75%. Tonsillectomy was performed in 80 instances and tonsillar biopsy was performed in 04 cases, with 36 males and 44 females ranging in age from 1 to 70 years. There were 05 cases of acute chronic tonsillitis, one case of acute ulcerative tonsillitis with micro abscesses, and two cases of reactive lymphoid hyperplasia. Two cases of granulomatous tonsillitis were observed.

Conclusion: Chronic tonsillitis is a frequent issue that affects people of all ages and is identified in the palatine tonsil. Histopathology is important in detecting both benign and malignant tonsil lesions and determining the best course of treatment.

Keywords: Biopsy, Palatine Micro abscesses, Tonsil, Tonsillectomy.

Introduction

Palatine tonsils are lymphoid tissue masses with lymphoid follicle clusters embedded in connective tissue stroma and covered by stratified squamous epithelial lining.[1] Because of their physical placement in the upper aerodigestive tract, they are part of the Waldeyer's lymphatic ring, which is responsible for the first line of defence against infections. Constant allergen exposure activates a local immune response, resulting in inflammatory changes in the tonsil.

It is unknown if tonsillitis represents a local defense mechanism overload or an exaggeration of typical reaction. Tonsillar illnesses, on the other hand, are among the most common health issues in the general population. Aside from tonsillitis, tonsils can also be the site of certain diseases such as tuberculosis, syphilis, and malignant tumours.[2] Tonsillitis is one of the most prevalent infectious disorders found in children. Tonsillitis is caused by a variety of species, including viruses such as Reovirus, Adenovirus, Influenza virus, and Echo virus, as well as bacteria such as beta hemolytic streptococcus. It is sometimes caused by fungi or parasites.[3]

Tonsillitis is caused by a variety of species, including viruses such as Reovirus, Adenovirus, Influenza vi-

rus, and Echo virus, as well as bacteria such as beta-hemolytic Streptococcus. It is sometimes caused by fungi or parasites.[4] Chronic tonsillitis is still the most prevalent reason for tonsillectomy.[5] Asymmetric tonsil for histological investigation to rule out cancer is one of the clear indications.[6,7]

Tonsillectomy is usually recommended when there are frequent bouts of acute tonsillitis. Other reasons for tonsillectomy include obstructive sleep apnea, quinsy, tonsillitis, tonsillar cysts, and cancer suspicion. In children with obstructive sleep apnea, an adeno-tonsillectomy is performed.[8]

This study was carried out to investigate the clinico-pathological findings of diverse palatine tonsil lesions that had tonsillectomy in various age groups.

Material and Methods

For one and a half years, a cross-sectional study was undertaken in the Department of ENT at Tertiary Care Institute of India. The cases included were from various age groups, ranging from children to the elderly, and had recurring occurrences of Acute Tonsillitis. The institutional ethical committee provided ethical approval, and all participants provided signed informed consent.

Cases with a history of allergy or any other chronic illness (diabetes, hypertension, tuberculosis, and asthma) were excluded.

All cases were admitted to the ENT department for surgery, which was performed under general anaesthesia (GA) with nasal intubation, and tissue was sent to the pathology department for histology. The available data for all patients, including age, gender, and clinical complaints, was obtained from the medical records section and the hospital information system (HIS). Histopathological findings from tonsillectomy patients were also obtained. Pre-operative clinical histories were obtained from the record and clarified with the operating notes, which covered clinical presentation, clinical course, and entire medical history. s. A total of 84 cases were operated on, with tonsillectomy performed in 80 cases (unilateral-12, bilateral-68), and tonsillar biopsy performed in 03 cases. Tonsillar tissues were transferred to the pathology department for histopathological investigation after being fixed in 10% formalin. Representative pieces were extracted from formalin-fixed tonsillectomy tissues, whilst biopsies were submitted entirely for paraffin block preparation. The sections were cut at a thickness of 3-4 microns and stained with hematoxylin and eosin (H and E). A microscopic examination was performed.

Statistical Analysis

The collected data was assembled and input into a spreadsheet programme (Microsoft Excel 2007) before being exported to the data editor page of SPSS version 15 (SPSS Inc., Chicago, Illinois, USA). The confidence level and level of significance for all tests were set at 95% and 5%, respectively.

Results

The most prevalent age group afflicted by chronic tonsillitis is 21-30 years, accounting for 36.25% of all cases, followed by 31-40 years, accounting for 28.75%. Odynophagia affects 3.75% of the elderly population over the age of 50 (Table 1).

Recurrent intermittent bouts of throat discomfort and odynophagia were the most common clinical presentation (54.5%), followed by recurrent throat infection (14.8%) (Table 2).

In 49% of cases, the most common clinical symptoms were congestion of the tonsils, anterior pillars, and peritonsillar area. Chronic tonsillitis patients have visible jugulodigastric lymph nodes. In 1.7% of malignant cases, there was unilateral tonsil enlargement and ulcero-proliferative proliferation.

Tonsillectomy was performed in 80 instances and tonsillar biopsy was performed in 04 cases, with 36 males and 44 females ranging in age from 1 to 70 years. The female mean age was 29 years, and the male mean age was 33 years. A small female predominance was seen. Histopathological investigation revealed that 62 of the 84 subjects had just chronic tonsillitis.

There were 05 cases of acute chronic tonsillitis, one case of acute ulcerative tonsillitis with micro abscesses, and two cases of reactive lymphoid hyperplasia. Two cases of granulomatous tonsillitis were observed.

Discussion

Chronic inflammatory tonsil disease most commonly affects children in their first decade of life, although it can also impact adults, most likely due to a local malfunction of the epithelial components. The persistence of local inflammatory reactions in tonsillar tissue results in a number of histomorphological alterations. Repeated tonsillitis bouts can cause tonsillar hypertrophy, which can cause airway blockage and necessitate tonsillectomy. According to many studies, persistent inflammation is present in both tonsillitis and tonsillar hypertrophy patients, but it is more pronounced in tonsillitis patients.[2]

In our study, patients' ages ranged from 1 to 70 years, with the majority (36.25%) falling between the ages of 21 and 30 years, which contradicts the findings of Manzoor et al. [9] According to the Ugras et al10 study, children have a higher rate of lymphoid hyperplasia, whereas adults have a higher incidence of fibrosis and atrophy. They also determined that the presence of surface epithelial defect and lymphocytic

infiltration in the surface epithelium is very indicative of chronic tonsillitis.

Actinomycetes are filamentous branched bacteria that reside in the oral cavity as commensal organisms. When found in tonsillar tissue, they can cause recurrent tonsillitis as well as sore throat and fever. In our investigation, eleven instances with chronic tonsillitis had actinomycotic colonies, but no tissue reaction was observed, which is comparable to the findings of Manzoor et al and Sujatha et al. [9,11] Histopathological examination is required not just to rule out cancer, but also in situations of suspected tuberculosis.

The most prevalent oropharyngeal tumour was cancer of the palatine tonsils. Carcinoma emerging from these areas is often squamous in nature and is closely linked to smoking, HPV infection, and, to a lesser extent, alcohol consumption.[12] However, multiple studies over the last two decades have demonstrated that human papillomaviruses (HPV) constitute a risk factor for the development of oropharyngeal cancer.[13] Squamous cell carcinoma (SCC) is the most frequent type of tonsil cancer, followed by non-Hodgkin's lymphomas (NHL). Old age patient with history of smoking, eating pan leaf/betel nut, history of cancer, and constitutional symptoms; related with examination results such as tonsil asymmetry, tonsil lesion, and neck mass, comparable to Agoda et al.[14] Babu et al [15] described five cases of tonsillar malignancy, including two undifferentiated carcinomas, two NHLs, and one SCC.The presence of lymphocytic and neutrophilic infiltration in the surface epithelium, with or without lymphoid hyperplasia, could be used to correctly diagnose chronic tonsillitis. Because the study was done at a single institute, caution should be exercised when extrapolating the findings to the broader community.

Conclusion

Chronic tonsillitis is a common problem facing in all age group, diagnosed in palatine tonsil. Histopathology play a key role in diagnosing both benign and malignant lesion of tonsil therefore deciding the proper management of the disease. Among tonsillar malignancies, Squamous cell carcinoma is the commonest and more common among the adult males.

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