

FACTS ABOUT CHRONIC TONSILLITIS: A PATHOLOGICAL STUDY

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ABSTRACT

Background: Although tonsillectomy was the commonest procedure performed by otolaryngologists, there is no consensus among them to send the excised tonsils for histopathological study.

Objectives: The objective of this study is to determine the unique histopathological features of chronically infected tonsils and to evaluate the necessity for routine histopathological examination of excised tonsillar tissues.

Patients and methods: This prospective study was conducted in Al-Ramadi Teaching Hospital/ENT Department and Pathology and Forensic Medicine Department in Anbar Medical College, Iraq. Hundred adult patients with chronic tonsillitis were subjected to histopathological examination during the period from 1 January 2012 to 31 December 2012.

Results: The histopathological results showed features of chronicity in form of hyperplasia 200 (100%), fibrosis 144 (72%), surface ulceration 112 (56%), crypt abscess 80 (40%), bacterial colonies 48 (24%), focal suppuration 16 (8%) and focal necrosis 8 (4%). No malignant or granulomatous changes were found in the examined tissues.

Conclusion: There is a strong correlation between the clinical and pathological findings of patient with chronic tonsillitis. Granulomatous or malignant lesions were not recorded. This study support previous studies which reported that routine histopathological examination of the removed tonsils is not recommended unless suspicious findings like weight loss, history of cancer, neck mass, asymmetry of the tonsils and fungating or ulcerative tonsillar mass.

Key words: Chronic tonsillitis, histopathological examination, AL-Ramadi, Iraq.

INTRODUCTION

Palatine tonsil constitutes the major part of the Waldeyer's ring. It is a collection of lymphoid tissue that is located in the lateral wall of the oropharynx, having an extremely considerable role in the antimicrobial defense mechanism of the body¹.

Chronic tonsillitis is one of the most common and frequent diseases within the field of otolaryngology². The tonsil is the most infective lesion of the pharynx with considerable acute (acute otitis media, catarrhal otitis media, fibro-adhesive otitis media, chronic suppurative otitis media, chronic muco-purulent rhinitis, sinusitis, ocular and lachrymal pathways infections, descending respiratory infections) and chronic complications (glomerulonephritis, joint rheumatism, endocarditis, enteritis,

etc.)^{3, 4-6}. Chronic tonsillitis can also trigger specific infections such as tuberculosis, syphilis and malignant lesions⁴⁻⁶. Tonsillectomy is one of the most frequently performed operations in Iraq. However, routine histopathological examination of the excised tonsil is not recommended unless there are risk factors (like asymmetry of tonsils, suspicious cervical lymph nodes, fungating tonsillar mass, family history of tonsillar malignancy and others) warranting histopathological evaluation.

According to the gross pathological description, chronic tonsillitis can be categorized into: focal tonsillitis, hypertrophic or sclera-atrophic caseous cryptic tonsillitis (recurrent forms), and simple hypertrophic tonsillitis (soft form in children and hard form in adults)⁵.

The primary goal of the present study is to determine the histopathological features of the removed tonsils from an adult patient with chronic tonsillitis. The other goal is to evaluate the necessity for routine pathological evaluation of the excised tonsils of patients with chronic infection.

PATIENTS AND METHODS

This study was carried out in the ENT Department of Al-Ramadi Teaching Hospital and Department of Pathology and Forensic Medicine in Anbar Medical College. One hundred sixteen adult patients with chronic tonsillitis during the period from 1 January 2012 to 31 December 2012 were seen, 16 patients were refused to enroll in the study and the remaining 100 patients were examined. Informed consent was taken from all patients. The diagnosis of chronic tonsillitis was based on the presence of 2 or more of the following:

1. Congested anterior pillars.
2. Palpable jugulodiagastric lymph nodes in absence of acute infection.
3. Positive spatula test (pus extruding from tonsil either pre or intra-operatively).

Tonsillectomy was carried out by cold snare method. The excised tonsil was put in a sterile plastic container containing 10% formalin solution and thereafter was sent for histopathological examination.

Macroscopical examination of the surface of the excised palatine tonsil was performed, thereafter the tonsils was cut parallel to the palatine surface to show many crypts as possible. Tissues were processed by embedding in paraffin, and then stained with haematoxyline and eosin. The prepared slide was examined under light microscope with resolution power 40× (Nikon Optical Co, Tokyo Japan).

The study was approved by the ethical approval committee in Anbar Medical College.

RESULTS

Out of 100 patients, 72 (72%) were females and 28 were males (28%); female to male ratio was 2.57:1. The age of patients under examination ranged from 18-43 years with a mean age of 26.08. Two hundred tonsil from 100 patient were examined. The entire excised tonsils showed hyperplasia plus one or more of the underlisted pathological features in order of frequency; fibrosis 144 (72%), surface ulceration 112 (56%), crypt abscess 80 (40%), bacterial colonies 48 (24%), focal suppuration 16 (8%) and focal necrosis 8 (4%), No features of granulomatous or malignant lesions were seen.

The microscopical feature of one of the examined tonsil is as shown in Figure 1.

DISCUSSION

The palatine tonsil is part of the Waldeyer's lymphatic circle located in the oropharynx, between the palatopharyngeal and palatoglossal folds. The medial surface of the tonsil contains 12-15 crypts, which may penetrate almost the whole thickness of the tonsil. The lateral surface is covered by a fibrous capsule⁷. The palatine tonsil, like the entire Waldeyer's ring, contains many immunological tissue, thus forms a barrier against the penetration of pathogenic flora into the aero-digestive tracts⁸. It has a humoral immunity by synthesis and secretion of immunoglobulins, which neutralize a percentage of oro-pharyngeal flora and a cellular immunity by Tlymphocyte penetrating the epithelial barrier⁹.

Chronic diseases of the tonsils are an important health problem, leading to large numbers of surgical operations worldwide.

One of the principles of surgery is that any part of the human being that has been excised by an operation should be send for histopathology examination in order to reach an accurate diagnosis, however there is no general consensus among otolaryngologists for sending the tonsillar specimen for histological examination unless there is a suspicious symptoms and signs for the presence of chronic specific infection, inflammation or malignant changes (e.g. night sweating, palpable cervical lymph nodes, weight loss and etc.....); the same applies in the Anbar Medical College Hospital. To the best of our knowledge, the present study is the first study in Iraq where tonsillar specimens without symptoms and signs for the presence of chronic specific infection, inflammation or malignant changes was made to undergo routine histopathological analysis in order to support or reject routine examination of the excised tonsils.

The histopathological study performed showed hyperplasia plus one of other chronic pathological features in all studied specimens. The clinical signs determined by the method of the present study confirmed that there is a strong correlation between the clinical diagnosis and histological examination of patients.

Tuberculosis is considered as the most common communicable disease worldwide. Primary tuberculosis of the tonsil is an extremely rare type of extrapulmonary tuberculosis¹⁰. This study did not record an occult finding of tuberculosis in the examined tonsillar tissues; this should be regarded by clinician as one of the differential diagnosis of chronic non-specific tonsillitis especially if there is a suspicious finding in the history or the clinical examination, like cough, haemoptysis and weight loss or the presence of pulmonary tuberculosis.

Typically, one of the causes of malignant tumors is chronic infection. The incidence of these tumors depends on the duration and the part of the body affected by the infection. Tonsils are a rare site of occurrence of these tumors but can become common when the tonsil is infected e.g. chronic tonsillitis. Similar findings have been reported by Kalcioğlu et al¹¹ who found no malignancy in his 1132 studied patients and the study by Randall DA et al¹² who reported that true occult malignancy were 0.011%

of the total cases studied. The present study did not record any case of malignant tumors which may have affected the tonsils.

The present study supports other studies¹²⁻¹⁴ that routine histopathological examination of the removed tonsil is not warranted unless there is a suspicious finding in the history or the examination after being evaluated by an experienced otolaryngologist.

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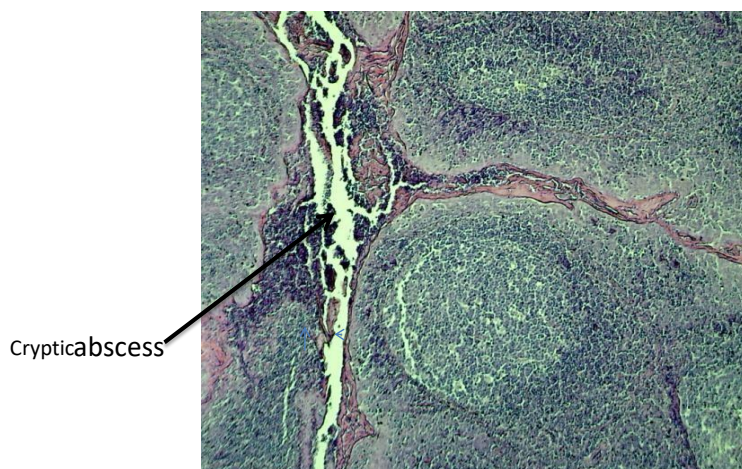


Figure 1-A

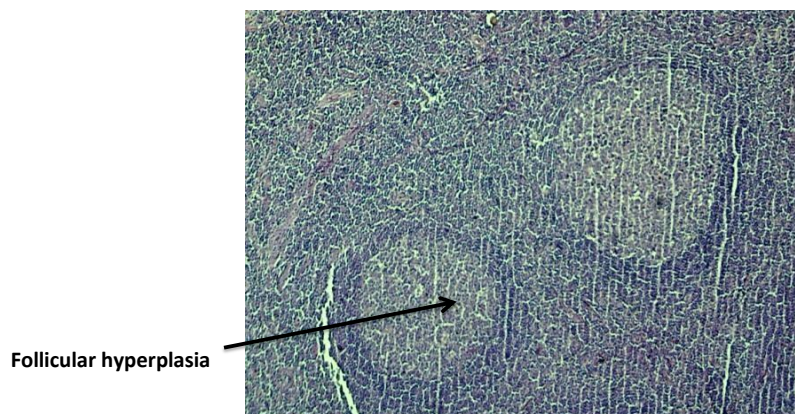


Figure 1-B

Figure 1. Pathological changes of the examined tonsil.