



Analysis of Chronic Tonsillitis: A Case Study

**Lina Marlina^{a,b*}, Joao C.H.A Barreto^a
and Fransiskus Harf Poluan^a**

^a Faculty of Medicine, Universitas Kristen Indonesia, Jakarta, Indonesia.

^b General Hospital Universitas Kristen Indonesia, Jakarta, Indonesia.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Background: Tonsillitis is the third most infectious ear, nose, and throat disease after rhinopharyngitis and otitis. Tonsillitis can have local or general complications. Tonsillitis is a health problem in society because of its incidence, frequency, and many socioeconomic impacts. Tonsillitis and its complications are important pathologies in ENT. Tonsillitis occurs in most cases in children and young adults, especially between the ages of 20 and 30 years, with a slight predominance in women. Case Report: The patient is a 20-year-old female who came to the ENT Polyclinic at Jakarta Harbor Hospital complaining of difficulty swallowing for two months. Complaints are felt continuously, such as discomfort when swallowing, increased difficulty swallowing, pain when swallowing, and decreased appetite. Complaints worsen and recur when the patient drinks cold drinks such as ice. The patient complained that he was often restless while sleeping, so the patient often woke up at night. Patients complain that they often experience shortness of breath and are more comfortable when breathing through their mouths. Complaints of

*Corresponding author: Email: lina.marlina@uki.ac.id;

fever were felt to have been intermittent for the previous two months, the last fever was two days before his arrival at the polyclinic with a measured temperature of 38.9°C. Fever occurs two times a week. The patient recovered and was stable after treatment in the form of analgesic therapy through the administration of ibuprofen or paracetamol, corticosteroid therapy through administration of a dose of corticosteroid as an anti-inflammatory, 3x1 prednisone tablet for three days, mouthwash therapy via antiseptic mouthwash containing chlorhexidine or benzydamine can reduce complaints of sore throat and improve symptoms; antibiotic therapy by administering oral Amoxicillin 50 mg/kg BW once a day or 25 mg/kg BW twice a day for ten days, first-generation cephalosporins such as cephalexin (orally 20 mg/kg BW twice a day) and cefadroxil (orally 30 mg/kg BW once a day) given for ten days, Clindamycin orally 7mg/kg BW, three times a day, Azithromycin orally 12 mg/kg BW once a day, Oral clarithromycin 7.5 mg/kg BW two times a day.

Keywords: Tonsillitis; ENT infection; chronic inflammation; treatment.

1. INTRODUCTION

Tonsillitis is the third most infectious disease of the ears, nose, and throat after rhinopharyngitis and otitis. Tonsillitis can have local or general complications. Tonsillitis is a health problem in society because of its incidence, frequency, and many socioeconomic impacts. Tonsillitis and its complications are important pathologies in ENT. Tonsillitis occurs in most cases in children and young adults, especially between the ages of 20 and 30 years, with a slight predominance in women (Haidara et al., 2019). Based on ENT epidemiological data in Indonesia, chronic tonsillitis sufferers are 3.8%, the highest after nasopharyngitis at 4.6%. According to the Indonesian Ministry of Health, tonsillitis in Indonesia is around 23% (Nurrifki et al., 2021). Chronic tonsillitis is a chronic inflammatory disease of the tonsils that lasts months to years or is a continuation of repeated acute infections. This inflammation occurs in the palatine tonsils, which are part of Waldeyer's ring. It spreads due to infections caused by microorganisms such as viruses, bacteria, and fungi that enter the body through inhalation or ingestion. Symptoms that appear and are typical of chronic tonsillitis are a feeling of a lump or sensation of a foreign body in the throat. Indonesian society has many risk factors for chronic tonsillitis sufferers, such as chronic smoking, unhygienic food and drink, poor oral hygiene, weather, and physical fatigue due to heavy work intensity (Ministry of Health of the Republic of Indonesia, 2018).

The majority of people who experience tonsillitis can recover with treatment or without treatment; in other words, tonsillitis can heal itself. As many as 40% of symptoms will disappear within three days and one week in 85% of people. However, if it recurs and continues to occur, the disease

will turn into chronic tonsillitis, which can obstruct the airways, which is a major concern in the management of tonsillitis (Hall and Guyton, 2019). Therefore, general practitioners must have the right skills to diagnose and evaluate management and important education in patients with chronic tonsillitis. Thus, the case report written now discusses chronic tonsillitis cases comprehensively, which can be useful for readers.

2. CASE PRESENTATION

The patient, a 20-year-old woman, came to the ENT Polyclinic at Jakarta Harbor Hospital complaining of a lump when swallowing 2 months ago at SMRS. Complaints are felt continuously, such as discomfort when swallowing, increased difficulty swallowing, pain when swallowing, and decreased appetite. Complaints get worse and recur when the patient drinks cold drinks such as ice. Complaints get worse and recur when the patient drinks cold drinks such as ice. The patient complained that he was often restless while sleeping, so the patient often woke up at night. Patients complain that they often experience shortness of breath and are more comfortable when breathing through their mouths. Complaints of fever have been felt to come and go since two months ago, the last fever was two days ago with a measured temperature of 38.9°C. Fever occurs twice a week. The patient also complained of coughing up phlegm. Previous similar complaints from patient were denied. The patient's sister had a history of tonsillitis and had undergone a tonsillectomy. The patient often eats spicy food and cold drinks. The patient's general condition appeared to be mildly ill. Generalist status within normal limits. On examination of the throat, the tonsil size was T3-T3 with widened crypts and a granular surface.

2.1 Physical Examination

- General condition: Looks mildly ill
- Consciousness: Compos mentis (GCS 15 [E4M6V5])

Vital signs:

- Blood pressure: 114/75 mmHg
- Pulse frequency: 86 x / minute
- Respiratory frequency: 20 x / minute
- Temperature: 36.8°C
- Oxygen saturation: 99% room air

2.2 Generalist Status

- a. Head: Normocephal, black hair, even distribution,
- b. and not easy to remove
- c. Eyes: anemic conjunctiva (-/-), icteric sclera (-/-)
- d. Neck: The lymph nodes are not noticeably enlarged
- e. Thorax

- Lungs

Inspection: Symmetrical movement of the chest wall left and right

Palpation: Left and right symmetrical vocal fremitus

Percussion: Sound throughout the lung fields

Auscultation: Vesicular breath sounds, rhonchi -/-, wheezing -/-

- Heart

Inspection: Ictus cordis is not visible

Palpation: Ictus cordis is palpable at the Linea Mid-clavicularis Sinistra ICS V

Percussion: Heart limits are within normal limits

Auscultation: Heart sounds within normal limits, murmur (-), gallop (-)

- Abdomen

Inspection: The stomach appears flat

Auscultation: BU (+) 4x/minute

Percussion: Timpani

Palpation: The liver and spleen are not palpably enlarged, tenderness (-)

- Upper Extremity

Physiological reflexes: +/-

Leg edema: -/-

Warm Acral: +/-

Cyanosis: -/-

- Lower Extremities

Physiological reflexes: +/-

Pathological reflex: -/-

Leg edema: -/-

Warm Acral: +/-

Cyanosis: -/-

- Integument: brown skin, urticaria (-)

2.3 ENT Localist Status

2.3.1. Ear

For ear examinations including the auricle, pre-auricle, retro-auricle, infra-auricle, ear canal, tympanic membrane and flattened fork test, in general no abnormalities were found either on Dextra or Sinistra.

2.3.2 Nose

On examination of the nose, including the external nose and the internal nose, no abnormalities were found.

2.3.3 Throat

On examination of the throat there were abnormalities in the tonsils where the condition of the crypts was found to be widened and the surface granular, while on examination of the pharynx, no abnormalities were found. Likewise, dental examination, saliva were all within normal limits.

3. DISCUSSION

3.1 Establishing the Diagnosis of Tonsillitis

3.1.1 Anamnesis

Anamnesis is carried out to explore the history of the patient's complaints in the form of local and systemic complaints. Local complaints that can be felt include pain when swallowing, pain, and

lump in the throat, halitosis (bad breath), fever, snoring, trouble breathing, blocked nose, and recurrent colds and coughs. Systemic complaints, such as weakness, decreased appetite, headaches, and joint pain, can accompany it (Çiçek-Şentürk et al., 2019). The main complaints of chronic tonsillitis are pain in swallowing, a lump in the throat, and bad breath. Meanwhile, acute tonsillitis usually rarely causes patients to come for treatment unless there is pain when swallowing, usually, it is self-limited or resolves by itself. Patients can also complain of swelling in the neck area. The very important thing in anamnesis for tonsillitis is to look for the time of onset of complaints, which occurs from days to months and years, to find patient risk

factors that will influence management and education (Hall and Guyton, 2019).

3.1.2 Physical examination

On physical examination to confirm the diagnosis of tonsillitis, results are often found, namely enlarged tonsils, widening of the surface of the tonsillar crypts, detritus found when pressing on the crypts, hyperemia/redness of the hyperemic anterior or posterior arch, and enlargement of the submandibular glands. The diagnosis of tonsillitis can be made if there are one or more complaints from the history that often recur coupled with enlarged tonsil size and/or other physical examinations (Çiçek-Şentürk et al., 2019).

Table 1. Inspection of Ear

Inspection	Abnormalities	Dextra	Sinistra
Earlobe (Auricle)	Form	Normotia	Normotia
	Trauma	There isn't any	There isn't any
	Infection	There isn't any	There isn't any
	Tragus tenderness	There isn't any	There isn't any
	Tumor	There isn't any	There isn't any
Pre auricular	Fistula	There isn't any	There isn't any
	Accessory auricles	There isn't any	There isn't any
	Abscess	There isn't any	There isn't any
	Sicatrix	There isn't any	There isn't any
Retro auricle	Swelling	There isn't any	There isn't any
	Abscess	There isn't any	There isn't any
	Fistula	There isn't any	There isn't any
	Sicatrix	There isn't any	There isn't any
	Enlarged glands	No enlargement	No enlargement
	Tenderness	There isn't any	There isn't any
Infra auricle	Enlargement of the parotid gland	No enlargement	No enlargement
Ear canal	Ear canal	Roomy	Roomy
	Epidermis	Pink	Pink
	Secret	There isn't any	There isn't any
	Cerumen	There isn't any	There isn't any
	Other disorders	There isn't any	There isn't any
Tympanic Membrane	Intact	Intact	Intak
	Color	Pearl white	Pearl white
	Light reflex	Positive, 5 o'clock	Positive, 7 o'clock
	Position	Normal	Normal
	Other disorders	There isn't any	There isn't any
Hearing Test via Tuning Fork Test	Rinne	Are not done	Are not done
	Schwabach	Are not done	Are not done
	Weber	Are not done	Are not done

Table 2. Inspection of outer nose

Inspection	Abnormalities	Dextra	Sinistra
Outer Nose	Outer shape	Normal, symmetrical	
	Deformity	There isn't any	There isn't any
	Tenderness	There isn't any	There isn't any
	Crepitation	There isn't any	There isn't any

Table 3. Inspection of Deep Nose

Inspection	Abnormalities	Dextra	Sinistra
Nasal vestibule	Furuncle	There isn't any	There isn't any
	Hyperemic	There isn't any	There isn't any
Nasal cavity	Cavum	Roomy	Roomy
	Mucosa	Pink	Pink
Inferior concha	Size	Eutrophy	Eutrophy
	Color	Pink	Pink
	Surface	Slippery	Slippery
Konka media	Size	Eutrophy	Eutrophy
	Color	Pink	Pink
	Surface	Slippery	Slippery
Middle and inferior meatus	secret	There isn't any	There isn't any
Septum	Deviation	There isn't any	There isn't any

Table 4. Inspection of Throat

Inspection	Abnormalities	Check up result
Tonsils	Size	T3/T3
	Crypt	Widened
	Detritus	There isn't any
	Attachment	There isn't any
	Surface	Granulated
Pharynx	Mass	There isn't any
	Color	Pink
	Attachment	There isn't any
Tooth		Complete, no cavities
Gum		There is no swelling or bleeding
Tongue		Within normal limits
Salivary glands		Within normal limits
Other disorders		There isn't any
Neck	Lymphoid glands	Not noticeably enlarged
Other disorders		There isn't any



Fig. 1. Throat Photo

Table 5. Detailed Case Analysis

Cases	Analysis
Epidemiology	
Patient Mrs. FS, a 20-year-old female, was diagnosed with chronic tonsillitis	Chronic tonsillitis is a disease that often occurs in 5-10 year olds and young adults aged 15-25 years. 14 Children before the age of eight years tend to diffuse enlargement of intracellular organisms and interstitial abscesses, while in adults and teenagers, there is an accumulation of bacteria at the edges of the crypts. 27 In this case the patient is 20 years old, in young adults there is a greater risk of developing chronic tonsillitis.
Anamnesis	
<ul style="list-style-type: none"> • Feeling uncomfortable when swallowing since 2 months ago • Fever has been on and off for the past 2 months • Complaints get worse and recur when the patient consumes cold drinks such as ice • Often restless when sleeping so that the patient often wakes up at night • Often experience shortness of breath and are more comfortable when breathing through the mouth • Cough with phlegm 	<p>Local complaints that can be felt include pain when swallowing, pain and lump in the throat, halitosis (bad breath), fever, snoring, trouble breathing, blocked nose, and recurrent colds and coughs. Tonsillitis that lasts for months or years is known as chronic tonsillitis. Chronic tonsillitis rarely has symptoms of painful swallowing. The typical symptom of chronic tonsillitis is a feeling of a lump in the throat when swallowing, accompanied by the presence or absence of smelly breath. Chronic tonsillitis will cause a sore throat and problems swallowing or breathing. Weight loss due to decreased appetite over a long time (Hall and Guyton, 2019).</p> <p>The patient in this case was consistent with the history of tonsillitis, namely finding a lump in the throat, fever, difficulty breathing through the mouth, and coughing. The patient is classified as having chronic tonsillitis because the patient has complaints that have been experienced for months (2 months) and the typical symptoms of chronic tonsillitis are found, namely a feeling of a lump in the throat, especially when swallowing and respiratory problems.</p>
Physical Examination	
<p>Tonsil Examination</p> <ul style="list-style-type: none"> • Size: T3/T3 • Crypts: Expand • Surface: Granular 	In this case, the patient had tonsillitis on physical examination, namely enlarged tonsils and widened crypts. The examination can reveal enlarged tonsils, widening of the surface of the tonsillar crypts, detritus can be found pressing on the crypts, hyperemia/redness in the hyperemic anterior or posterior arch, and enlargement of the submandibular glands can be found (Çiçek-Şentürk et al., 2019). T3 tonsil size shows 50-75% of the tonsil volume compared to the volume of the oropharynx or the medial border of the tonsils passing ½ the distance from the anterior pillar-uvula to ¾ the distance from the anterior pillar-uvula (Hall and Guyton, 2019).
Supporting investigation	
No supporting examination was carried out in this case	Examinations that can support the diagnosis of tonsillitis are swab culture, Rapid Antigen Detection Test or RAT, and histopathology. The gold standard for supporting tonsillitis is a culture of tonsil preparations in the throat (Hall and Guyton, 2019)
Therapy	
<ul style="list-style-type: none"> • Antibiotics: Inj. Ceftriaxone amp 2x1 gr IV • Analgesics: Inj. Ketorolac amp 1x30 mg IV • Antitussive: OBH syr 3x1 e.g. PO 	<ul style="list-style-type: none"> • Analgesic Giving Ibuprofen or Paracetamol as the main choice. • Corticosteroids Corticosteroids can improve symptoms and provide minimal side effects. The dose of corticosteroids as an anti-inflammatory is 3x1 prednisone tablet for 3 days

Cases	Analysis
<ul style="list-style-type: none"> Operative: Consider Tonsillectomy 	<ul style="list-style-type: none"> Mouthwash Antiseptic mouthwash containing chlorhexidine or benzydamine can reduce complaints of sore throat and improve symptoms. Antibiotics <ul style="list-style-type: none"> ✓ Oral amoxicillin 50 mg/kg BW once a day or 25 mg/kg BW twice a day for 10 days ✓ First-generation cephalosporins such as cephalexin (orally 20 mg/kg twice a day) and cefadroxil (orally 30 mg/kg once a day) are given for 10 days ✓ Oral clindamycin 7mg/kg BW, 3 times a day ✓ Oral azithromycin 12 mg/kg BW once a day ✓ Oral clarithromycin 7.5 mg/kg BW 2 times a da (Hall and Guyton, 2019, Sharma et al., 2022)

Clinical examination of the tonsils is carried out with the help of a tongue spatula by assessing the color, size, widening of the crypt openings, presence or absence of detritus, tenderness, and hyperemia in the anterior arch. 4 In addition, palpation assessment to check whether the KGB is enlarged or not is accompanied by paying attention to the presence or absence of tenderness in the KGB. The lymph nodes that usually enlarge are in the submandibular area. Viral and bacterial tonsillitis will be differentiated through detritus, where detritus will be present in bacterial tonsillitis (Triola et al., 2020). Another frequent clinical feature is small tonsils, usually indented and often considered "graves" where the margins are hyperemic and a small amount of thin purulent discharge is visible in the crypts. The size of the tonsils in chronic tonsillitis can be enlarged (hypertrophy) or atrophy. Tonsil enlargement can be expressed in sizes T1–T4. Based on the ratio of the tonsils to the oropharynx, by measuring the distance between the two anterior pillars compared to the distance between the medial surfaces of the two tonsils, the grade of tonsil enlargement can be divided into:(Hall and Guyton, 2019).

1. T0 (tonsils are in the fossa or have been removed).
2. T1 (<25% of the tonsil volume compared to the oropharyngeal volume or the medial border of the tonsils passes through the anterior pillar to ¼ of the distance from the anterior pillar to the uvula).
3. T2 (25-50% of the tonsil volume compared to the volume of the oropharynx or medial border of the tonsils passing ¼ of the anterior pillar-uvula distance to ½ of the anterior pillar-uvula distance).
4. T3 (50-75% of the tonsil volume compared to the volume of the oropharynx or medial

border of the tonsils passing ½ the distance from the anterior pillar-uvula to ¾ from the anterior pillar-uvula).

5. T4 (>75% of the tonsil volume compared to the oropharyngeal volume or the medial border of the tonsils passes ¾ of the distance from the anterior pillar-uvula to the uvula or more)

3.1.3 Supporting examination

Symptoms and signs are not enough to make a diagnosis; a combination of several factors needs to be used as a clinical prediction. IDSA (Infectious Disease Society of America) and AHA (American Heart Association) recommend confirmation of bacteriological status to diagnose tonsillitis, either using a throat swab culture or using the Rapid Antigen Detection Test or RAT. The gold standard for supporting tonsillitis is a culture from tonsil preparations in the throat (Hall and Guyton, 2019).

RAT has high sensitivity, so positive results usually do not require a throat swab culture. Meanwhile, if the RAT shows negative results, it is usually followed by a throat swab culture. Supporting examinations are usually carried out in patients with chronic tonsillitis, especially those that lead to streptococcus bacterial infection. This is done because treatment with antimicrobials often fails to eradicate pathogenic germs and prevent the recurrence of infections in the tonsils. Failure to eradicate pathogenic organisms is caused by inappropriate antibiotic administration or inadequate antibiotic penetration, so that in the end, the goal is to find a definitive antibiotic according to culture results (Hall and Guyton, 2019).

3.2 Management of Tonsillitis

3.2.1 Analgesic

Giving Ibuprofen or Paracetamol as the main choice. Ibuprofen has better results than Paracetamol in sore throat. The combination of the two did not provide significant results in adult patients. Paracetamol is the main choice as an analgesic in children. Ibuprofen is an alternative therapy and is not given routinely to children at risk of dehydration (Hall and Guyton, 2019, Sharma et al., 2022).

3.2.2 Corticosteroids

Giving corticosteroids to children and adults can provide significant improvement in symptoms and provide minimal side effects. The use of corticosteroids in combination with antibiotics is not routinely given as a treatment for tonsillitis but may be considered in patients with severe symptoms. Giving steroids for more than 3 days may not be more effective than a single dose in children and adolescents with streptococcal infections. Corticosteroid dose as anti-inflammatory 3x1 prednisone tablet for 3 days (Hall and Guyton, 2019, Sharma et al., 2022).

3.2.3 Mouthwash

Antiseptic mouthwash containing chlorhexidine or benzydamine gives good results in reducing complaints of sore throat and improving symptoms. Lidocaine spray significantly reduced pain severity in the first three days, but not within 7 days in a low-quality trial in 40 patients aged 6-14 years (Hall and Guyton, 2019, Sharma et al., 2022).

3.2.4 Other

Other supportive therapies that do not have evidence include topical analgesics and anesthetics, gargling with warm salt water, throat lozenges, hard candy or frozen desserts, soft foods, and thick liquids, such as ice cream, pudding, and moisturizers. Nasal steroids can reduce the need for surgery in cases of adenotonsillar hypertrophy (Hall and Guyton, 2019, Sharma et al., 2022).

3.2.5 Antibiotics

Antibiotic administration can be determined using the Centor Score in patients more than 3 years and less than 45 years. If the Centor score is 1-2, the patient is given symptomatic therapy for 3

days. After 3 days, observations are made on the progress of the disease to see whether there is improvement or not. If there is no improvement, it is necessary to do a throat swab examination for RAT or resistance culture before administering antibiotics. If the Centor score is 3-4, a throat swab examination is carried out for RAT examination or resistance culture, and empirical antibiotics are immediately administered (Hall and Guyton, 2019, Sharma et al., 2022).

If health facilities for examination of throat swab culture and RAT are not yet available, the use of antibiotics in cases with a Centor score of 3-4 can be started early but this needs to be done wisely so that the incidence of antibiotic resistance does not increase. If antibiotic therapy does not provide improvement within 5 days and there is suspicion of antibiotic resistance, the patient is referred for swab culture. In the following table, the types of antibiotics are used for tonsillitis.

Oral amoxicillin 50 mg/kgbw once a day (maximum dose 1 g), or 25 mg/kgbw twice a day (maximum dose 500 mg), for 10 days.

- Oral amoxicillin 50 mg/kgbw once a day (maximum dose 1 g), or 25 mg/kgbw twice a day (maximum dose 500 mg), for 10 days
- First-generation cephalosporins such as cephalexin and cefadroxil were given for 10 days, in several studies obtained good results. Cephalexin orally 20 mg/kgbw twice a day (maximum dose 500 mg) for 10 days. Cefadroxil orally 30 mg/kgbw once daily (maximum dose 1 g) for 10 days.
- Oral clindamycin 7mg/kgbw, 3 times a day (maximum dose 300 mg) for 10 days.
- Oral azithromycin 12 mg/kgBW once daily (maximum dose 500 mg) for 5 days.
- Oral clarithromycin 7.5 mg/kgbw 2 times a day (maximum dose 250 mg) for 10 days.
- Erythromycin ethylsuccinate (EES) 40 mg/kgbw/day, 2-4 times (4x400 mg in adults) for 10 days.
- If there is no allergy to penicillin V, penicillin V can be given for 10 days. The child's dose is 250 mg orally, 2-3 times a day. The adult dose is 4x250 mg per day or 2x500 mg per day (Hall and Guyton, 2019, Sharma et al., 2022).

4. CONCLUSION

In the case of chronic tonsillitis, establishing a diagnosis and providing correct and appropriate

treatment is the main key to being able to cure the patient. Even though this disease is not dangerous, if it is not treated quickly and correctly, it can have effects on other body conditions.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

CONSENT

As per international standards or university standards, patient(s) written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standards or university standards written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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