

CHARACTERISTICS OF TONSILLITIS PATIENTS IN CHILDREN AT UNIVESITAS KRISTEN INDONESIA HOSPITAL, 2010-2017

Ester Puti Andyni Manalu^{1*}, Bambang Suprayogi Resi Utomo¹

¹Departement of The Ear Nose Throat Head and Neck Fakultas at Univesitas Kristen Indonesia Hospital, Jakarta,

email: ester96manalu@gmail.com



Abstract: Tonsillitis is a common disease in Ear Nose Throat (ENT) clinic, especially in the age of children and adolescents. Tonsillitis is inflammation of the palatine tonsils caused by bacteria, viruses or other immunological factors. The research is to find the characteristic of patients tonsillitis at Christian University of Indonesia Hospital. Method: This research uses descriptive method with retrospective approach done at Christian University of Indonesia General Hospital with sample number of 40 patient. Statistical data checks using SPSS version 25. Result: Based on the medical record data obtained patients tonsillitis in children most often in the age group 0-6 62.5%, male gender 55%, have good nutrition status 57.5%, the main complaints of sorethroat 60%, size of T2-T2 tonsils 40%, medical diagnosis is acute tonsillitis 75%, medical treatment 77.5%. Conclusion: The profile of patients with tonsillitis in children was predominantly in the age group 0-6 years, male gender with good nutritional status had major complaints was swallowing pain, tonsils size T2-T2 and diagnosed acute tonsillitis. Medicamentous administration was an option in the treatment of tonsillitis.

Keywords: Tonsillitis, children, prevalence

1. INTRODUCTION

Tonsils are a part of the body's defense system. Palatine tonsils are part of Waldeyer's ring, then if there is inflammation it is called tonsillitis. Tonsillitis is still a health problem in Indonesia and is commonly often occurs in children. This disease is treated by many specialists in the ear, nose, throat, head and neck department (ENT-KL), pediatricians and other health services. Important causes of tonsillitis are group A beta-hemolytic streptococcus (GABHS) and *Staphylococcus aureus*, cause 15-30% of tonsillitis. Viral infections (Rhinovirus, Influenza A, Adenovirus, Herpes Simplex virus, Epstein Barr virus (EBV), Metapneumovirus, Respiratory Syncytial Virus (RSV), and Parainfluenza) are the primary etiology of tonsillitis. Infection can handily transmission through close contact with an infected person, when an infected person coughs or sneezes, the germs are contained in droplets that come from the nose or mouth, can occur at all ages, especially in children.^{1,2,3}

The pattern of ENT disease varies in each country. Many environmental and social factors are assured to be responsible for the infectious etiology of this disease. Based on data from the Indonesian Ministry of Health in 2012, the incidence of tonsillitis in Indonesia is around 23%. According to data from the World Health Organization (WHO) in 2005, approximately 616 million cases of streptococcal tonsillitis are diagnosed each year. According to the Survei Kesehatan Rumah Tangga (SKRT), the highest morbidity rate for children aged 5-14 years and chronic tonsillitis ranks fifth (10.5% of males and 13.7% of females). Clinical symptoms of chronic tonsillitis are preceded by symptoms of acute tonsillitis such as sore throat that does not go away completely. The duration of sore throat and painful swallowing is felt for more than 4 weeks and can sometimes persist. Other clinical symptoms include fever, malaise, swollen lymph nodes in the neck and tonsillar redness or swelling, sometimes with white patches. Research on children in Padang in 2013 found the highest frequency of chronic tonsillitis in the age range of 10-14 years, female sex, the main complaint was painful swallowing, tonsil size T3-T3 and operative management.^{3,4} Based on the above background it can be concluded that tonsillitis is still a health problem that needs special attention, especially in children, so researchers are interested in conducting research on the characteristics of tonsillitis in children at the Universitas Kristen Indonesia Hospital in 2010-2017.

2. METHOD

The type of research used is descriptive research with a retrospective approach. Data obtained based on medical records of patients with tonsillitis inc children at Universitas Kristen Indonesia (UKI) Hospital during August-December 2017. The number of samples used total sampling and obtained

*Corresponding author: ester96manalu@gmail.com



40 pediatric patients who suffered from chronic tonsillitis and went to the UKI Hospital for the ENT-KL section in 2010-2017. The research source used medical records, and the data collected will be analyzed which includes univariate analysis. Univariate analysis was used to see the description of the frequency distribution of each research variable. Data analysis was carried out descriptively using the Statistical Product and Service Solution (SPSS) version 25.0 program. Variables with categorical scales are expressed in frequency distributions and percentages are then presented in tabular form. This research follows the rules following applicable research ethics.

3. RESULT

Based on medical record data from the Universitas Kristen Indonesia Hospital, the distribution of tonsillitis patients in children in 2010-2017 was 40 people who met the inclusion and exclusion criteria. The data obtained are as follows:

Table 1. Age Frequency Distribution in Tonsillitis Patients

Age	frequency	%
0-6	25	62.5%
7-12	11	27.5%
13-18	4	10%

Table 2. Gender Frequency Distribution in Tonsillitis Patients

Gender	frequency	%
Male	22	55%
Female	18	45%

Table 3. Frequency Distribution of Nutritional Status in Tonsillitis Patients

Nutritional Status	frequency	%
Underweight/wasting	6	15%
Good nutritional status/normal	23	57.5%
Overweight/obese	11	27.5%

Table 4. Frequency Distribution of Chief Complaints in Tonsillitis Patients

Chief Complaints	frequency	%
Fever	12	30%
Sore throat	24	60%
Vomiting	2	5%
Cough with phlegm	2	5%

Table 5. Frequency Distribution of Tonsil Size in Tonsillitis Patients

Tonsil Size	frequency	%
T1-T1	11	27.5%
T2-T2	16	40%
T3-T3	11	27.5%
T4-T4	2	5%

Table 6. Frequency Distribution of Medical Diagnosis in Tonsillitis Patients

Medical Diagnosis	frequency	%
Acute Tonsillitis	30	75%
Chronic Tonsillitis	10	25%

Table 7. Frequency Distribution of Treatment in Tonsillitis Patients

Treatment	frequency	%
Medicine	31	77.5%
Operative	9	22.5%

Based on the reported age range, cases of tonsillitis were dominated by the age group of children (0-6 years) as much as 62.5%, preadolescents (7-12 years) as many as 27.5%, and adolescents (13-18 years) as many as 10%. Distribution of tonsillitis more male patients (55%) compared to women (45%). In addition, the distribution of diseases based on nutritional status, 57.5% of patients had good nutritional status/normal, 27.5% overweight/obese nutritional status, 15% underweight/wasting. Symptoms of Sore throat were experienced by 60% of the total patients, 30% had fever, 5% complained of vomiting and 5% coughed up phlegm. T2-T2 size is the largest tonsil size, as much as 40%, T1-T1 and T3-T3 each as much as 27.5% and only T4-T4 as much as 5%. Based on disease category, acute tonsillitis is 75% and chronic tonsillitis is 25%. Medicine is the most treatment option, as much as 77.5%, while surgery is 22.5%.

The incidence of tonsillitis regarding the distribution of the population varies from region to region. Based on the age group, 0-6 years is the largest age range, namely 63.5%. A parallel study by Khasanov

et al, regarding the prevalence of chronic tonsillitis in families, it was found that 335 children aged 1-15 years from 321 families had chronic tonsillitis.⁵ According to research by Raju, the highest distribution was found in the age range 1-10 years. suggested that children are the age group most susceptible to attacks of acute tonsillitis, with a peak at the age of 10 years. Nave stated that this was due to the greatest immunological activity of the tonsils found in the age range of 3-10 years. One of the predisposing factors for the emergence of chronic tonsillitis in children is the influence of several types of food, this is because children often consume foods such as foods with artificial sweeteners, preservative foods, and poor oral care. Based on gender, according to the results of research conducted by Kartika in 2015, there were 64% more boy than girl. Abouzi and Emad's research explains that there is no involvement of genetic and cultural factors in sex differences that often experience tonsillitis. This can be due to the influence of the population in a population related to the dominance of a certain sex on the incidence of tonsillitis, both men and women.^{6,7,9,10}

Profile of patients based on nutritional status was dominated by good nutritional status/normal as many as 23 people (57.5%). However, Triastuti's study showed a significant relationship between nutritional status and chronic tonsillitis in children.¹¹ Tonsillitis is generally caused by viruses which must be treated symptomatically and by increasing the body's resistance. Lack of food nutrients greatly affects the body's resistance, especially against diseases such as tonsillitis which is caused by a virus. Nutritional status is an indicator in determining the health status of children, but there are still many predisposing factors for chronic tonsillitis, including chronic irritation (due to smoking, pollution, and food), low nutrition or immune system, weather influences, actively choosing the food you like so that you can affect eating habits, and poor oral hygiene.¹² Based on the main complaint, swallowing pain was dominated by 24 people (60%), this was caused by something that was swallowed touching an area that was experiencing inflammation, causing complaints of discomfort to patients in the form of pain when swallowing. Safitri's research also explained that most patients with chronic tonsillitis complain of sore throat. Recurrent events in chronic tonsillitis are due to incomplete healing due to inadequate initial treatment, so that pathogenic bacteria that still persist in the tonsils can at any time attack the tonsils again if the body's resistance decreases. Complaints of fever in this study were as much as 30%, this could occur due to the body's response due to foreign antigens that attack the body's defense system.^{11,13}

Based on the size of the tonsils, it was dominated by T2-T2 with 16 patients (40%). This is in accordance with Farokah's study of elementary school children where there were 83 students with T2 tonsil sizes, while 62 students with T3 tonsil sizes and no students with T4 tonsil sizes. Enlarged tonsils due to parenchymal hyperplasia or fibrinoid degeneration with obstruction of the tonsillar crypts. Recurrent infections and obstruction of the tonsillar crypts result in increased debris and antigen stasis in the crypts, as well as a decrease in the integrity of the crypt epithelium, making it easier for bacteria to enter the tonsillar parenchyma. Bacteria that enter the tonsillar parenchyma will result in tonsillar infection. The size of T2-T2 often occurs in acute tonsillitis, even if left unchecked, it can lead to chronic tonsillitis.^{14,15} Based on medical diagnosis, acute tonsillitis is dominated by 30 people (75%). The corresponding research by Preti in 2016 at the Indonesian Christian University General Hospital was dominated by acute tonsillitis in 76 people (76%) while chronic tonsillitis was in 24 people (24%).¹⁶ The patient profile based on management was dominated by medical treatment in 31 people (77.5%). This is due to the fact that more pediatric patients who come to the Universitas Kristen Indonesia Hospital are diagnosed with acute tonsillitis, so medical therapy is given. Tonsillectomy is aimed at cases where there are indications for surgery, such as chronic tonsillitis, which are not many. The results of this study are in accordance with those conducted by Amalia in 2011, which recorded more medicine therapy than surgery.¹⁷

4. CONCLUSION

The characteristics of tonsillitis patients in children obtained the most description in the age group 0-6 years as much as 62,5%, male sex as much as 55%, the main complaint of repeated sore throat as much as 60%, and 57.5% of patients had good nutritional status/normal, size tonsils T2-T2 as much as 40, based on disease category that acute tonsillitis is 75% and the most treatment medicine option, as much as 77.5%. Therefore, it is hoped that future researchers need to develop and take into account other variables that have not been studied, such as history of eating/smoking habits, oral hygiene, and climate/weather factors. Further research is needed using a larger number of samples in other hospitals or other populations.

REFERENCES

- Yeoh YK, Chan MH, Chen Z, Lam EW, Wong PY, Ngai CM, Chan PK, Hui M. The human oral cavity microbiota composition during acute tonsillitis: a cross-sectional survey. *BMC oral health*. 2019 Dec 1;19(1):275.
- Najim JM, Alsaimary IE, Alshareida AM. Pathogenicity of *Streptococcus pyogenes* associated among tonsillitis patients and Tonsillectomy. In *Journal of Physics: Conference Series*, 2019;1:1294(6):062002. IOP Publishing.
- Sembiring RO. Identifikasi Bakteri dan Uji Kepekaan terhadap Antibiotik pada Penderita Tonsilitis di Poliklinik THT-KL BLU RSU Prof. Dr. RD Kandou Manado Periode November 2012-Januari 2013. *Jurnal E-biomedik*. 2014 Aug 19;1(2):1053-7.
- Soepardi EA, Iskandar N, Bashiruddin J, Restuti RD. *Buku Ajar Ilmu Kesehatan Telinga Hidung Tenggorok Kepala dan Leher*. Edisi ke-6. Jakarta: Fakultas Kedokteran Universitas Indonesia; 2011.
- Khasanov SA, Asrorov AA. Prevalence of Chronic Family Tonsillitis and Its Prevention. *Vestn Otorinolaryngology*. 2006;4:38-40
- Raju G, Selvam EM. Evaluation of Microbial Flora in Chronic Tonsillitis and The Role of Tonsillectomy. *Bangladesh Journal of Otorhinolaryngology*. 2012 Nov 24;18(2):109-13.
- Palandeng AC, Tumbel RE, Dehoop J. Penderita Tonsilitis di Poliklinik THT-KL BLU RSUP Prof. Dr. RD Kandou Manado Januari 2010-Desember 2012. *e-CliniC*. 2014;2(2).
- Kartika. Faktor-Faktor yang Berhubungan dengan Angka Kejadian Tonsilitis pada Anak Usia 5-18 Tahun di Poliklinik THT RSUD Karawang Tahun 2015. *Jurnal Kesehatan Bhakti Husada*. 2017 Oct 21;3(1):23-32
- Thios RL. Profil Penderita Tonsilitis di Poliklinik THT-KL BLU RSUP Prof. Dr. R. D. Kandou – Manado, Januari 2008 – Desember 2010. Manado: Universitas Sam Ratulangi; 2011.
- Abouziad A, Emad M. Sex Differences in Tonsillitis. *Dalhousie Medical Journal*. 2008;35(1):8-10.
- Triastuti NJ, Rahman F, Akbar MA, Dasuki MS, Sintowati R. Pengaruh Status Gizi dan Tonsilitis Kronik terhadap Prestasi Belajar pada Siswa Sekolah Dasar. *Biomedika*. 2015 Feb 2;7(1):27-34.
- Harrypana IGNG, Putra DGAE. Distribusi tonsilitis kronis pada siswa di SD 1 Ubung Denpasar dan SD 2 Abang Karangasem. *Medicina*. 2019;50(2):281-286.
- Safitri R. Karakteristik Penderita Tonsilitis Kronis yang Diindikasikan Tonsilektomi (Tesis). Jambi: Fakultas Kedokteran Ilmu Kesehatan Universitas Jambi. 2013.
- Sanpardi GP, Dehoop J, Mengko SK. Survei Kesehatan Tenggorok pada Masyarakat Pesisir Pantai Bahu. *e-CliniC*. 2015;3(1):550-3.
- Farokah. Hubungan Tonsilitis Kronis dengan Prestasi Belajar pada Siswa Kelas II Sekolah Dasar di Kota Semarang. Semarang: Universitas Diponegoro; 2005.
- Roseli P. Profil Penderita Tonsilitis di Rumah Sakit Umum Universitas Kristen Indonesia Tahun 2011-2016 (Tesis). Jakarta: Universitas Kristen Indonesia; 2016.
- Amalia N. Karakteristik Penderita Tonsilitis Kronis Di RSUP H. Adam Malik Medan Tahun 2009 (Tesis). Medan: Universitas Sumatera Utara; 2011.