THE CHARACTERISTICS OF CHRONIC RHINOSINUSITIS AT WANGAYA REGIONAL HOSPITAL DENPASAR PERIOD JANUARY-DECEMBER 2022

Ni Putu Omasih Kiantimi[1*], I Nengah Wartawan[2]

[1]Faculty of Medicine, Udayana University
[2]Otorhinolaryngologists, Departement of Otolaryngology- Head and Neck Surgery, Wangaya Regoional Hospital

Email Korespondensi: omakiantimi@gmail.com

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ABSTRACT

Chronic rhinosinusitis is inflammation that affects the nose and paranasal sinuses accompanied by two or more symptoms, one of which is blockage or obstruction in the nose and nasal mucus that flows posteriorly or anteriorly which can be accompanied by additional symptoms in the form of pain or pressure on the face and reduced olfactory sensitivity or loss of smell when symptoms more than 12 weeks. Chronic rhinosinusitis has a greater impact on reducing quality of life and huge burden of health costs than acute rhinosinusitis. This research was retrospective descriptive uses secondary data from medical records January-December 2022 Otorhinolaryngology Department of Wangaya Regional Hospital Denpasar. The sampling technique used was total sampling. Data collected included gender, age, occupation, main complaint, comorbidities, number of sinus involvement, location of sinuses, therapy. The data obtained were analyzed univariately using SPSS software version 23.0 and presented in the form of tables and narratives. From the research, it was obtained that the gender was mostly female 51.2%, average age of 38.05 ± 14.26 years with the highest age group is 46-60 years old, mostly private employees 48.8%. The most common main complaint was a blocked nose 48.8%. The highest comorbid was septum deviation 14%. The majority of sinuses involved were single rhinosinusitis 67%. The highest location in the maxillary sinus 69.8%. The majority of therapy was medication 58.1%. Most cases were found in female gender, average age 38.05 ± 14.26 year age group is 46-60 years old, private employees, main complaint was blocked nose, comorbidities with deviated septum, single rhinosinusitis, the highest location in the maxillary sinus, medicamentosa therapy.

***Keywords**: Characteristics, Patients, Chronic Rhinosinusitis*

INTRODUCTION

Sinusitis often occurs along with rhinitis symptoms, so it is now known as rhinosinusitis to describe this condition more accurately. Rhinosinusitis is inflammation of the nose and paranasal sinuses [1]. Rhinosinusitis is confirmed if there are two or more symptoms, one of which is blockage or obstruction in the nose and nasal mucus flowing posteriorly or anteriorly which can be accompanied by additional symptoms in the form of pain or pressure on the face and reduced

olfactory sensitivity (hyposmia) or loss of smell (anosmia). Chronic rhinosinusitis occurs when symptoms last more than 12 weeks. However, if symptoms last less than 12 weeks, it is called acute rhinosinusitis.[1],[2]

Chronic rhinosinusitis has a greater impact on reducing quality of life than acute rhinosinusitis. Chronic rhinosinusitis is a significant health problem, and often occurs in the community, affecting 5-12% of the general population.[2] National Guidelines for Medical Services for the Management of Chronic Rhinosinusitis Republic of Indonesia, there are no definite figures regarding the incidence of chronic rhinosinusitis in Indonesia. A Descriptive Research period 2016 until 2018 in the Rhinology Division, Department of T.H.T.K.L. RSUP Dr. Mohammad Hoesin Palembang found the proportion of chronic rhinosinusitis in adults was 33.3%. Based on data collected from several teaching hospitals in Indonesia, it was found that the average number of adult chronic rhinosinusitis patients in rhinology clinics for 3 years, M. Djamil Hospital Padang was 83.8%, Dr. Kariadi Semarang 83.5%, RSUD Dr. Saiful Anwar Malang 85.9%, RSUD Dr. Soetomo Surabaya 65.5%, and Sanglah Hospital Bali 28.9%.[1], [2]

The incidence of chronic rhinosinusitis both abroad and in Indonesia always increases from year to year. However, data in Indonesia regarding the profile characteristics of rhinosinusitis patients, especially in Bali, has not been widely reported. Therefore, the author is interested in researching the characteristics of cronic rhinosinusitis at the otorhinolaryngology departement of Wangaya Regional Hospital Bali period January until December 2022.

RESEARCH METHODOLOGY

The research is a retrospective descriptive study using secondary data obtained from the medical record otorhinolaryngology departement of Wangaya Regional Hospital.The sampling technique used was total sampling. The subject of the study were all patients chronic rhinosinusitis in otorhinolaryngology department Wangaya Regional Hospital period January-December 2022.This study has received ethical approval from the Research Ethics Unit of Wangaya Regional Hospital Number 070/2968/RSUDW dated June 16, 2023.

The study variable were gender, age, occupation, main complaint, comorbidities, number of sinuses involved, sinus location, therapy. The data was carried out using SPSS software program version 25.0 and presented in the form of tables and narratives.

RESEARCH RESULT

The results of the research were 43 respondents who met the inclusion and exclusion criteria. The most of the patient were female, namely 22 patients (51.2%), while there were 21 patients (48.8%) male. (Table. 1)

The mean age of respondents was 38.05 years with a standard deviation of ± 14.26 years. The most case age group is 46-60 years old namely 15 cases (34.9%), followed by the age range of 16-30 years old namely 13 cases (30.2%), age range of 31-45 years old namely 12 cases (27.9%) in third place, then followed by the age range of 0-5 years old namely 2 cases (4.6%) and the least is 61-75 years old namely 1 case (2.3%).

Table 1. Characteristics of Chronic Rhinosinusitis Patients

Characteristics	Frequency (n)	Percentage (100%)
Gender		
Female	22	51.2
Male	21	48.8
Aged		
16-30 years	13	30.2
31-45 years	12	27.9
46-60 years	15	34.9
61-75 years	1	2.3
Occupation		
Housewives	5	11.6
Private Employees	12	48.8
Students	8	20.9
Entrepreneurs	4	9.3
Unemployment	1	2.3
Farmers	2	4.7
Civil Servant	1	2.3
Total	**43**	**100.0**

Most of the research samples were private employees with 21 cases (48.8%), then the second highest were students with 9 cases (20.9%), then housewives with 5 cases (11.6%), then entrepreneurs with 4 cases (9.3%), farmers 2 cases (4.7%) and at least are civil servant and unemployment each one 1 cases (2.3%). (Table 1)

The main complaint of chronic rhinosinusitis at Wangaya Regional Hospital was nasal congestion in 21 cases (48.8%). The next main complaint was smelly snot in 8 cases (18.6%) and followed by a runny nose in 5 cases (11.6%), complaints of vomiting pain and headaches in 4 cases each (9.3%) and the least came with the main complaint of smell problems namely 1 case (2.3%).(Table 2)

The most common comorbidity was septal deviation with 6 cases (14.0%). Then followed by dental infections with 4 cases (9.3%), then upper respiratory tract infections with 2 cases (4.7) and sinus tachycardia, hypertension, diabetes with 1 case (2.3%). The majority of chronic rhinosinusitis sufferers at Wangaya Regional Hospital in 2022 did not have comorbidities, 25 cases (58.1%). (Table 2)

Most of the samples had single rhinosinusitis, 29 cases (67.4%), second place was multisinusitis, 11 cases (25.6%) and a small percentage of pansinusitis, 3 cases (7.0%). The highest sinus location that affected by chronic rhinosinusitis was the maxillary sinus with 30 cases (69.8%), followed by the second position, namely the maxillary and sphenoid sinuses with 6 cases (14%). (Table 2) Treatment for rhinosinusitis was mostly medical or with drugs in 25 cases (58.1%) and in 18 cases (41.9%) surgery.

Table 2. Characteristics of Chronic Rhinosinusitis in Wangaya Regional Hospital

Characteristics	Frequency (n)	Percentage (100%)
Main complaint		
Reduction or less of smell	1	2.3
Runny nose	5	11.6
Nasal congestion	21	48.8
Facial Pain	4	9.3
Smelly Nasal Mucus	8	18.6
Headache	4	9.3
Comorbidities		
Asthma	1	2.3
Septum Deviation	7	16.3
Hypertension	1	2.3
Diabetes	1	2.3
Tooth infection	4	9.3
Upper respiratory tract infection	2	4.7
Sinus Tachycardia	1	2.3
Migraine	1	2.3
Has no comorbidities	25	58.1
Number of Sinus Involvement		
Multisinusitis	11	25.6
Pansinusitis	3	7.0
Single rhinosinusitis	29	67.4
Location of sinuses		
Ethmoid	1	2.3
Maxilla	30	69.8
Maxilla, sphenoid	6	14
Maxillary, frontal	1	2.3
Maxilla, sphenoid, ethmoid	2	4.7
Maxillary, sphenoid, ethmoid, frontal	3	6.9
Therapy		
Medicamentosa	25	58.1
Operation	18	41.9
Total	43	100.0

DISCUSSION

In this study, it was found that Table 1. the majority of respondents were female, namely 22 respondents (51.2%), while 21 respondents were male (48.8%). The results of this research are in line with research at the Regional General Hospital, Dr. Zainoel Abidin Banda Aceh in 2019-2020 the most common gender was found in women, namely 188 people (56.12%), while in men there were 147 people (43.88%).[3] Other research that supports this research is research at Central Hospital Hasan Sadikin Bandung found that the majority of chronic rhinosinusitis sufferers were 55% women and 45% men.[4]

These results were also similar to research conducted by the CDC in the United States on adults from 1997-2012. It is more common in women with chronic rhinosinusitis than men. Meanwhile, according to Fokkens et al., there are hormonal effects of estrogen, progesterone, and placental growth hormone on the nasal mucosa and blood vessels which may have an influence on the occurrence of CRS and women are more worried about their health, so women will check themselves more quickly at health services.[5]

The results of the study are inversely proportional to Sitinjak at Santa Elizabeth Hospital Medan in 2011-2015, namely 55.8% men and 44.2% women and with research at Sanglah Hospital in 2016. Highest incidence in men can be cause by the smoking habit and exposure toxic substances that can affect the body's immune system. Exposure tobacco smoke have significant role in increasing chronic rhinosinusitis because can trigger mucosal changes and damage to the cilia in the nose and paranasal sinuses.[6], [7]

In this study, the mean age of respondents was 38.05 years with a standard deviation of ± 14.26 years. The largest age group is 46-60 years old and the least is 61-75 years old. This study accordance with the European Position Paper on Rhinosinusitis and Nasal Polyps (EPOS) 2012 that the prevalence increases with age with an average of 2.7% and 6.6% in the age group 20-29 and 50-59 years, where at the age after 60 years, there was a decrease in the prevalence rate of chronic rhinosinusitis to 4.7%. Research shows that most chronic rhinosinusitis occurs in productive age, this may be because adults are more active and are exposed to allergens or pollutants from the workplace or the environment outside the home. [5], [8]

Based on table 2. Most of the research samples were private employees, totaling 21 samples (48.8%). This is accordance with research at Sanglah General Hospital in 2016 which showed that the highest proportion were private employees with 23 sufferers (43.4%).[7] Meanwhile, research conducted at H Adam Malik General Hospital found that the highest proportion was housewives at 28.7%. Research at Santa Elisabeth Hospital in Medan in 2011-2015 saw the highest proportion of chronic rhinosinusitis in self-employed individuals at 28.2%. Research variations can be caused by differences in sample size and geographical location of research sampling.[6], [8]

The research results showed that the main complaint of rhinosinusitis sufferers at Wangaya Regional Hospital was mostly nasal congestion in 21 cases (48.8%). Then followed by 8 cases of smelly snot (18.6%) in second position and 5 cases of runny nose (11.6%) in third position. This is in accordance with research at Sanglah General Hospital, H Adam Malik Hospital, Santa Elisabeth Hospital Medan. It was found that the main complaint was nasal congestion with a proportion of 67.9% at Sanglah Hospital. Haji Adam Malik Hospital as many as 74.2%, Elizabeth Hospital In Medan the main complaint of nasal congestion was 92.6%. The blocked nose are caused by an inflammatory process caused by infection. If the infection process occurs in the osteomeatal complex and followed by edema, It can causing the mucosa facing each other to stick to each other. This causes the cilia to be unable to move and blockage of the ostium resulting in obstruction of drainage.[6], [7], [9]

Based on table 2. The most common comorbidity was septal

deviation with 6 cases (14.0%). Then followed by dental infections with 4 cases (9.3%), then upper respiratory tract infections with 2 cases (4.7) and sinus tachycardia, hypertension, diabetes with 1 case (2.3%). This is accordance with research at Sanglah General Hospital in 2016 which found that the highest comorbidity was deviated septum with 19 sufferers (45.2%) while Lubis research found that the highest comorbidity was allergies with a percentage of 29.2%. Variations in research results on the characteristics of comorbidities obtained can be influenced by the number of research samples studied in each study.[7], [9]

Most of the research samples had single rhinosinusitis 29 samples (67.4%) based on the number of sinus involvement, second place was multisinusitis, 11 samples (25.6%) and a small percentage of pansinusitis, 3 cases (7.0%). The result was found that the highest sinus location with chronic rhinosinusitis was the maxillary sinus with 30 cases (69.8%), followed by the second position, namely the maxillary and sphenoid sinuses with 6 cases (14%). The results of the research are accordance with research conducted at Sanglah General Hospital in 2016, it was found that the sinus with the most frequent infections was the maxillary sinus at 90.6%.[7] This research is also in accordance with research conducted at RSUD dr. Pirngadi Medan in January 2020 - June 2021, the most frequent sinus location was the maxillary sinus, 22 people (25.3%).[10] The maxillary sinus is the sinus that is most frequently infected because it is the largest sinus and has an opening that is higher than the base of the sinus, which causes the flow of secretions in the maxillary sinus to be very dependent on the movements of the cilia. The drainage process must also go through the narrow infundibulum. If there is an obstacle to the movement of the cilia, it will cause secretions to collect in the sinuses and become a medium for the germ breeding process.The results of the research showed that treatment for chronic rhinosinusitis was mostly in the form of medication or drugs for 25 cases (58.1%) and for 18 cases (41.9%) with surgery. This is accordance with research at the Regional General Hospital, dr. Zainoel Abidin Banda Aceh in 2019-2020, the most chronic rhinosinusitis patients received medical therapy, namely 264 cases (78.81%), while 71 patients received surgery (21.19%).[3] This research is in line with research by Prasetyo at the Haji Adam Malik General Hospital in Medan on 188 cases showing that the most therapy given to rhinosinusitis patients was medical therapy, namely 77.7%, while surgery was only 22.3%.[12] This is inversely proportional to rhinosinusitis sufferers at RSUD Dr. Pirngadi Medan in 2012, the research results showed that 31 people had operations (63.3%), while 18 people (38.7%) received medical treatment. Variations in therapeutic results obtained in each study can be caused depending on the severity of chronic rhinosinusitis experienced by the sufferer.

CONCLUSION

Based on the study, it was obtained that the gender was mostly female 51.2%, average age of 38.05 ± 14.26 years with the highest age group is 46-60 years old, mostly private employees 48.8%. The most common main complaint was a blocked nose 48.8%. The highest comorbid was septum deviation 14%. The majority of sinuses involved were single rhinosinusitis 67%. The highest location in the maxillary

sinus 69.8%. The majority of therapy was medication 58.1%.

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