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CHRONIC RHINOSINUSITIS WITH DEXTRA ET SINISTRA NASAL POLYPS

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ABSTRACT
Chronic rhinosinusitis with nasal polyps is a chronic inflammatory condition of the nasal mucosa and paranasal sinuses, characterized by bilateral polypoid tissue growth. This disease can significantly reduce quality of life due to persistent and recurrent symptoms. This report aims to describe a case of chronic rhinosinusitis with right and left nasal polyps, including risk factors, clinical features, supporting examination results, and patient management and follow-up. This study is a descriptive case report involving one patient with bilateral chronic nasal congestion, anosmia, and rhinorrhea that lasted more than 12 weeks. Data were collected through anamnesis, physical examination, nasoendoscopy, CT scan imaging, and patient medical records. Data analysis was performed qualitatively by describing the clinical course, supporting examination results, therapeutic interventions, and patient follow-up evaluation. The patient experienced significant improvement post-operatively with decreased symptoms, increased quality of life, and no polyp recurrence was found within 3 months after the procedure. Appropriate diagnosis and management of chronic rhinosinusitis with bilateral nasal polyps are essential to prevent complications and improve patient prognosis.

Keywords: chronic rhinosinusitis; mucosal inflammation; nasal polyps; quality of life; sinus endoscopy

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INTRODUCTION

Nasal polyps are soft, fluid-filled masses in the nasal cavity, grayish-white in color, which usually develop due to mucosal inflammation. These polyps can occur in men and women of all ages, from children to the elderly. The prevalence of nasal polyps is not fully known because it varies depending on the study and diagnostic method. In Europe, the prevalence of nasal polyps is reported to be around 1-2% in adults, while in the United States it ranges from 1-4%. In children, the prevalence is much lower, around 0.1%. In Indonesia, the prevalence of nasal polyps varies between 0.2% and 4.3%, with a male-to-female ratio of around 2-3:1 (Astrid et al., 2023; Nanda, 2020). The exact cause of nasal polyps is not fully understood, but some theories suggest that the causes include: Allergic rhinitis, Atopic disease, Vasomotor imbalance, and Polysaccharide changes. Nasal polyps can be divided into two types: Small polyps, which usually do not cause symptoms. Large polyps can cause sneezing, nasal discharge, and nasal congestion, especially in chronic rhinosinusitis (CRS). The primary symptoms of nasal polyps include nasal congestion, a feeling of a mass in the nose, difficulty blowing your nose, and a decreased sense of smell. Secondary symptoms can include mucus running down your throat, rhinorrhea, facial pain, headaches, and sleep disturbances. Polyps can affect the lower airway, causing chronic coughing and wheezing, especially in people with asthma (Fokkens et al., 2020; Guo et al., 2018; Hopkins, 2019)

Macroscopically, nasal polyps appear as smooth, pedunculated masses, round or oval in shape, grayish white and somewhat translucent. The pale color is caused by high fluid content and low blood flow. Chronic irritation or inflammation can change the color to reddish or yellowish. Microscopically, polyps show epithelium similar to normal nasal mucosa, with a swollen submucosa containing various inflammatory cells such as lymphocytes, eosinophils, and macrophages. Old polyps can undergo epithelial metaplasia to transitional, cubic, or

flattened types (Astrid et al., 2023; Stevens et al., 2016) Diagnosis of nasal polyps involves: Anamnesis: Identifying the main symptoms such as nasal congestion and rhinorrhea. Physical examination: Seeing nasal deformity and pale mass on anterior rhinoscopy. Naso-Endoscopy: Allows visualization of polyps at early stages and location of the stalk. Radiological Examination: Plain sinus radiographs and computed tomography (CT) help assess mucosal thickening, the presence of polyps, and surgical planning. Appropriate radiological examination is essential for effective management, especially if drug therapy is unsuccessful or if there are complications from sinusitis (Bai et al., 2022; Cai et al., 2023)

According to the European Position Paper on Rhinosinusitis and Nasal Polyps (EPOS), the incidence of CRS with nasal polyps varies between 1-4% of the general population, with the incidence increasing with age. This disease is also associated with other inflammatory diseases such as asthma, allergic rhinitis, and aspirin-exacerbated respiratory disease (AERD). In Indonesia itself, the exact prevalence is not yet known for certain, but cases of bilateral nasal polyps are often found in ENT clinics, especially in referral hospitals. In the context of this case report, the patient experienced chronic rhinosinusitis with bilateral nasal polyps (dextra et sinistra), which caused respiratory problems through the nose, olfactory disorders, and a significant decrease in quality of life. The management carried out included initial drug therapy, surgical procedures in the form of endoscopic sinus surgery (ESS), and follow-up to monitor recurrence and effectiveness of therapy.

Chronic rhinosinusitis with nasal polyps is a clinical entity that is often under-recognized early because the symptoms resemble common rhinitis. Many patients do not realize that the condition requires long-term and ongoing treatment. Delay in diagnosis and therapy can lead to complications such as total upper airway obstruction, secondary infection, osteitis of the sinus bone, and spread to the orbital and intracranial cavities. Most patients who come to health services in advanced conditions require surgery, where the choice of therapy depends not only on surgery but also on long-term pharmacological therapy such as intranasal and systemic corticosteroids, and biological therapy for refractory cases. Risk factors for CRS with nasal polyps include genetic predisposition, environment (dust, allergens, pollution), recurrent infections, and association with systemic diseases such as asthma and immunological disorders. The chronic inflammation that occurs is generally eosinophilic, especially in Caucasians, while in Asian populations, neutrophilic inflammation is more common, which has a poorer response to conventional therapy. In this report, the patient had no history of allergic rhinitis or asthma, but had a history of exposure to dust at work and living in an unhygienic environment. This suggests that environmental factors still play an important role in the etiopathogenesis of CRS. This case study aims to describe a case of chronic rhinosinusitis with right and left nasal polyps, including risk factors, clinical features, supporting examination results, and patient management and follow-up.

METHOD

Research Design

This study uses a descriptive case study method that aims to describe in depth one case of a patient with Chronic Rhinosinusitis with bilateral Nasal Polyps (dextra et sinistra), starting from clinical symptoms, diagnosis, management, to post-therapy evaluation. This study was conducted retrospectively with a qualitative and quantitative approach based on clinical data and patient medical documentation. This case study was chosen to broaden the understanding of the multidisciplinary management of CRSwNP and the effectiveness of a combination of drug and surgical treatment in severe cases involving both nasal cavities. The study was conducted from June to October 2024 in the Ear, Nose, Throat, Head and Neck Surgery (ENT-KL) department, Jakarta Harbor Hospital. Data was collected in the inpatient room, the ENT outpatient polyclinic, the radiology department, and the hospital's supporting

laboratories. The research subjects were one patient diagnosed with Chronic Rhinosinusitis with Dextra et Sinistra Nasal Polyps who were treated and underwent medical procedures at Dr. X Regional Hospital. Inclusion Criteria: 1) Patients with symptoms of chronic rhinosinusitis >12 weeks; 2)The presence of bilateral nasal polyps proven by nasoendoscopy and/or CT scan; 3) The patient is willing to provide informed consent and their data is used for scientific purposes. Exclusion Criteria: 1) Patients with a history of malignant neoplasms of the nasal cavity and sinuses; 2) Patients with severe immunodeficiency conditions (eg, HIV/AIDS); 3) Revision cases of CRSwNP with a history of previous sinus surgery. Data were collected retrospectively and prospectively from various sources, including: Anamnesis (conducted to explore the main complaint, duration of complaint, risk factors, previous medical history, and treatments that have been undergonePhysical Examination and Nasoendoscopy: undertaken to assess the condition of the nasal mucosa, the presence of polyps, and the degree of upper airway obstruction); Supporting Examination (including paranasal CT scan to assess the degree of obstruction and sinus involvement); Medical Documentation (such as outpatient records, laboratory results, surgical medical records, and postoperative follow-up records). Data were analyzed descriptively and qualitatively by compiling a narrative of the patient's clinical journey from the initial visit to the post-action evaluation. The results of clinical and supporting examinations were compared with the applicable guidelines for the diagnosis and management of chronic rhinosinusitis with polyps (eg EPOS 2020). The success of therapy was evaluated based on symptom improvement, no recurrence during the 3-month observation period, and improved patient quality of life.

RESULT

The patient came to the ENT clinic of the Jakarta Harbor Hospital with complaints of nasal congestion in both nostrils for 40 years and worsening over the last 1 year. The complaints were felt to come and go, and gradually worsened. 10 Initially, the patient said that since high school, he had often coughed and had a runny nose and sneezed when exposed to AC and dust, but the patient had ignored the complaint. However, because the patient felt uncomfortable, the patient was finally taken to the ENT clinic and diagnosed with polyps in the right and left nasal passages. The patient was given medication, but the complaint did not improve. The patient said that he had been offered surgery, but the patient refused and chose to take medication only. Over the last 1 year, the patient's complaints have worsened. The patient complained that both of his nostrils were getting more and more blocked. the patient said that he currently feels a little short of breath and has to breathe through his mouth. The patient also felt a sense of obstruction in both noses, which was sometimes accompanied by the discharge of clear fluid from both nostrils, and sometimes felt like fluid was coming down from the nose to the throat when the patient was coughing and had a cold. The patient also recently said that his sense of smell had started to decrease. The patient also often felt headaches that came and went. The patient said that other complaints, such as nausea, vomiting, urinary and defecation disorders, hearing disorders, and sore throat, were denied. The patient's general condition appears mildly ill. General status is within normal limits. On examination of the right and left nose, a narrow nasal cavity was found, there was a mass in the middle meatus, pale color, smooth surface (+), medial and inferior concha hypertrophy, not easily bleeding, can be moved, deviated nasal septum (-), smelly (-).

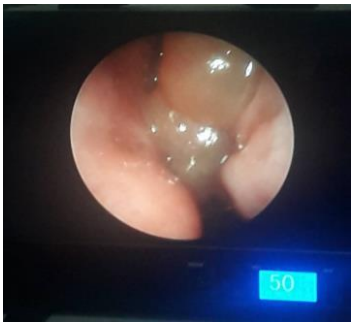

Figure 1. Results of Nasoendoscopy Examination of the Left Nose

Figure 2. Results of Nasoendoscopy Examination of the Right Nose

Working Diagnosis: Chronic Rhinosinusitis With Nasal Polyps Right and Left
Differential Diagnosis

- Nasal Tumor
- Antrochoanal Polyps

Management
Medication
- Prednisone 3 x 60 mg for 4 days → Gradually reduced by 5 mg/day
- Budesonide 64 mcg/hole/day 2 x spray
- Wash the nose with 0.9% NaCl 2-3 times daily
- Ceterizine 1 x 10 mg ◊ for Allergic Rhinitis

Non-Medication
- Patients need to be educated to avoid exposure to allergens. - Compliance with treatment
- Routinely wash the nose using nasal spray or nasal wash
- Maintain environmental cleanliness
- Educate patients to go to an ENT-KL specialist → Perform surgery polypectomy

Prognosis
Quo ad vitam: Dubia ad bonam
Quo ad functionam: Dubia ad bonam
Quo ad sanationam: Dubia ad malam

Table 1.
Analysis Case

Case	Analysis
Epidemiology	
Patient Mr. ISH is a 62-year-old male diagnosed with Rhinosinusitis with nasal polyps dextra et sinistra	The reported prevalence of nasal polyps varies between 1-4% of the population. It occurs more often in men with a peak incidence at the age of 40 to 60 years. According to data published in the USA, nasal polyps occur in 2% - 5% of the general population and account for 5% of visits to ENT specialists. The incidence rate increases with age.4-5 In Indonesia, the incidence rate is not yet known for certain. In H. Adam Malik General Hospital, Medan in 2009-2011, there were 59 cases of nasal polyps, consisting of 36 men (61%) and 23 women (39%).

Anamnesis	
The patient came to the ENT clinic of Pelabuhan Hospital Jakarta with complaints of nasal congestion in both nostrils since 40 years ago and worsening in the last 1 year. The complaints were felt to come and go and gradually worsened. Initially, the patient said that since high school he often coughed and had a runny nose and sneezed when exposed to air conditioning and dust, but the patient ignored the complaints. However, over time the patient felt something stuck in both of his noses and made him feel uncomfortable, finally the patient was taken to the ENT clinic and diagnosed with polyps in the right and left nasal passages. The patient was given medication but the complaints did not improve. The patient said that he had been offered surgery, but the patient refused and chose to just take medication. Since the last 1 year, the patient's complaints have gotten worse, the patient complained that both of his nostrils are getting more and more blocked, the patient said that he currently feels a little short of breath, often snores and has to breathe through his mouth. The patient also feels a sense of obstruction in both noses which is sometimes accompanied by the discharge of clear fluid from both nostrils and the patient has difficulty blowing his nose so that sometimes it feels like there is fluid coming down from the nose to the throat when the patient is coughing and has a cold. The patient also recently said that his sense of smell has started to decrease. The patient also often feels headaches that come and go. The patient said that other complaints such as nausea, vomiting, urinary and defecation disorders, nosebleeds, facial pain, hearing disorders, and sore throat were denied.	The main complaint of nasal polyp sufferers is nasal congestion ranging from mild to severe, rhinorrhea ranging from clear to purulent, hyposmia or anosmia. May be accompanied by sneezing, pain in the nose accompanied by headaches in the frontal area. If accompanied by secondary infection, post nasal drip and purulent rhinorrhea may be obtained. Secondary symptoms that can arise are breathing through the mouth, nasal voice, halitosis, sleep disturbances and decreased quality of life. In addition, a history of allergic rhinitis, asthma, intolerance to aspirin and other drug allergies and food allergies should be asked.
Physical Examination	
Examination of the right and left nose: ● Cavum nasi: Narrow ● Mucosa: Pink ● Inferior & Media Concha: Hypertrophy, Pale, and smooth surface ● Medial & inferior meatus: Secretion (-) ● Septum deviation: None ● Other abnormalities: A pale, white, and shiny mass is filling the medial meatus but not covering the entire cavity nasi, smooth, can be easily moved, has a stalk, and is not painful when touched in both nasal cavities	Massive nasal polyps can cause external nasal deformity so that the nose appears to flare due to the widening of the nasal bridge. On anterior rhinoscopy examination, it is seen as a pale white and shiny mass that fills the middle meatus but does not cover the entire nasal cavity, is smooth, can be easily moved, has a stalk, and is not painful when touched in both nasal cavities.
Supporting Investigation	
No supporting examinations were performed in this case	• Radiology: plain paranasal sinus photo mucosal thickening • CT scan: see ethmoid cells, OMC where nasal polyps usually grow • Allergy test: Especially in patients with environmental allergies or a history of allergies in the family • Laboratory: Differentiate the cause of allergies or non-allergies- In allergies, eosinophils are found in the nasal swab, while in non-allergies • Histopathological examination, found: - Pseudostratified ciliated columnar epithelium - Thickened epithelial basement membrane - Edematous stroma

Therapy	
• Prednisone 3 x 60 mg for 4 days → Gradually reduced by 5 mg/day • Wash the nose with 0.9% NaCl 2- 3 times every day	Corticosteroids: • Systemic: High dose & Short term • Intranasal: mainly caused by allergies • Oral: Short-term of nasal polyp therapy is effective in reducing inflammation NaCl 0.9% → Eliminates allergen particles and reduces infection in the nose.

DISCUSSION

Anatomy and Physiology of the Nose

The inner nose consists of structures extending from the anterior nares to the posterior choanae, separating the nasal cavity from the nasopharynx. The nasal septum divides the middle of the inner nose into the right and left nasal cavities. Each nasal cavity has four walls, namely the medial, lateral, inferior, and superior walls. The inferior part of the nasal cavity borders the oral cavity, separated by the hard palate. Posteriorly, it connects to the nasopharynx through the choanae. Laterally and in front it is bordered by the external nose. Laterally and behind it, the borders are the maxillary sinus, ethmoid sinus, pterygopalatine fossa, and pterygoid fossa. [7].

The Base of the Nose

Formed by the palatine process of the maxilla and the horizontal process of the palatum. The nose roof consists of the superior and inferior lateral cartilages, and the bones of the nasal bones, the frontal bone, the cribrous plate, the ethmoid bone, and the corpus of the sphenoid bone. The medial wall of the nasal cavity is the nasal septum. The nasal septum consists of the nasal septal cartilage, the perpendicular plate of the ethmoid bone, and the vomer bone. Meanwhile, in the apex of the nose, the nasal septum is completed by skin, subcutaneous tissue, and major alar cartilage.

Lateral Wall

The lateral wall can be divided into three parts, namely anteriorly there is the frontal process of the maxilla, medially there is the ethmoid bone, maxilla bone and concha, and posteriorly there is the perpendicular lamina of the palatum bone, and the medial pterygoid lamina. The most important part of the lateral wall is the four conchae. The largest and lowest conchae is the inferior conchae, then the smaller conchae are the medial conchae, the superior conchae and the smallest is the supraconchae. The supraconchae usually become rudimentary. Between the conchae and the lateral wall of the nose there is a narrow cavity called the meatus. There are three meatuses, namely the inferior, medial and superior meatus. The superior meatus or ethmoid fissure is a narrow gap between the septum and the lateral mass of the ethmoid bone above the middle concha. The sphenoethmoid recess is located posterosuperior to the superior concha and in front of the sphenoid concha. The sphenoethmoid recess is where the sphenoid sinus empties. The middle meatus is one of the gaps in which the maxillary sinus, frontal sinus and anterior part of the ethmoid sinus are located. Behind the anterior part of the middle concha which is hanging, on its lateral wall there is a crescent-shaped gap called the infundibulum. The crescent-shaped opening or fissure that connects the middle meatus to the infundibulum is called the hiatus semilunaris. The inferior and medial walls of the infundibulum form a drawer-like protrusion known as the uncinate process. The ostia of the frontal sinus, the maxillary antrum, and the anterior ethmoid cells open into the infundibulum. The frontal sinus and the anterior ethmoid cells usually open into the upper anterior part, and the maxillary sinus opens into the posterior part of the frontal sinus opening. The inferior meatus is the largest of the three meatuses, having the opening of the nasolacrimal duct located approximately 3 to 3.5 cm behind the posterior border of the nostril.

Nasal Septum

The septum divides the nasal cavity into right and left chambers. The posterior part is formed by the perpendicular lamina of the ethmoid bone, the anterior part by the septal cartilage, the premaxilla and the membranous columella. The vomer bone forms the posterior and inferior parts, the maxillary crest, the palatine crest and the sphenoid crest. In the front of the septum there are anastomosis of branches of the sphenopalatine artery, anterior ethmoid artery, superior labial artery, and greater palatine artery called the Kiesselbach Plexus (Little's area). The Kiesselbach Plexus is superficial and easily injured by trauma, so it is often a source of epistaxis (nosebleeds), especially in children. The veins of the nose have the same name and run side by side with the arteries. The veins in the vestibule and the outer structures of the nose drain into the ophthalmic vein which is connected to the cavernous sinus. The veins in the nose do not have valves, which is a predisposing factor for easy spread of infection to the intracranial area.

Nasal Polyps

Nasal polyps or nasal polyps are soft masses containing a lot of fluid in the nasal cavity, grayish white, which can result from mucosal inflammation. Polyps can occur in both male and female sufferers, from childhood to old age. The prevalence of nasal polyps is not yet known because there are only a few reports from epidemiological studies, and it depends on the selection of the research population and the diagnostic methods used. The prevalence of nasal polyps is 1-2% in adults in Europe and 4.2% in Finland. In the United States, the prevalence of nasal polyps is estimated to be between 1-4%. It is rare in children and is reported to be only around 0.1%. Larsen and Tos's research in Denmark estimates the incidence of nasal polyps at 0.627 per 1000 people per year. In Indonesia, epidemiological studies show that the ratio of men and women is 2-3:1 with a prevalence of 0.2%-4.3% (Budiarti, 2023; Hopkins, 2019) According to research, the cause of polyps is not yet known for sure, but several theories suggest several causes, namely allergic Rhinitis, atopic Disease, vasomotor Imbalance, and changes in polysaccharides. (Dawolo et al., 2019; Milanković, 2024)

Pathogenesis

The formation of polyps is often associated with chronic inflammation, dysfunction of the autonomic nerves, and genetic predisposition. According to Bernstein's theory, there are changes in the nasal mucosa due to inflammation or turbulent airflow, especially in narrow areas in the ostiomeatal complex. Submucosal prolapse occurs, followed by reepithelialization and the formation of new glands. There is also an increase in sodium absorption by the surface of epithelial cells, resulting in water retention so that polyps form (Restuti, 2019; Subhan, 2022). Another theory says that due to vasomotor nerve imbalance, there is an increase in capillary permeability and disruption of vascular regulation which results in the release of cytokines from mast cells, which will cause edema and eventually become polyps. If the process continues, the swollen mucosa will enlarge into a polyp and then descend into the nasal cavity by forming a stalk. Macroscopically, a polyp is a stalked mass with a smooth surface, round or oval, grayish white, slightly clear, lobular, can be single or multiple and is not sensitive (when pressed/poked it does not hurt). The pale color of the polyp is caused by the presence of a lot of fluid and little blood flow to the polyp. If there is chronic irritation or inflammation, the color of the polyp can change to reddish and chronic polyps can become yellowish because they contain a lot of connective tissue (Fokkens et al., 2020; SEPTIARI, 2019). The place of origin of the polyp growth is mainly from the ostio-meatal complex in the middle meatus and ethmoid sinus. If there are endoscopic examination facilities, the place of origin of the polyp stalk can be seen. There are polyps that grow backwards and enlarge in the nasopharynx, called choanal polyps. Choanal polyps mostly originate from the maxillary

sinus and are also called antro-choanal polyps. There are also a small number of choanal polyps that originate from the ethmoid sinus (Budiarti, 2023; Paulsen & Waschke, 2013).

Diagnosis Establishment

Anamnesis

The main complaint of nasal polyp sufferers is a stuffy nose from mild to severe, rhinorrhea ranging from clear to purulent, hyposmia or anosmia. May be accompanied by sneezing, pain in the nose accompanied by headaches in the frontal area. If accompanied by secondary infection, post nasal drip and purulent rhinorrhea may be obtained. Secondary symptoms that can arise are breathing through the mouth, nasal voice, halitosis, sleep disturbances and decreased quality of life. Can cause symptoms in the lower respiratory tract, in the form of chronic cough and wheezing, especially in nasal polyp sufferers with asthma. In addition, a history of allergic rhinitis, asthma, intolerance to aspirin and other drug allergies and food allergies must be asked (Hopkins, 2019; Stevens et al., 2016)

Physical Examination

Massive nasal polyps can cause external nasal deformity so that the nose appears to flare due to the widening of the nasal bridge. On anterior rhinoscopy examination, it is seen as a pale mass originating from the middle meatus and is easily moved. The division of polyp stages according to Mackay and Lund (1997), stage 1: polyps are still limited to the middle meatus, stage 2: polyps have come out of the middle meatus, are visible in the nasal cavity but have not filled the nasal cavity, stage 3: massive polyps.

Supporting Examination

● Naso-endoscopy

The presence of endoscopy facilities (telescope) will greatly assist in the diagnosis of new polyp cases. Stage 1 and 2 polyps are sometimes not visible on anterior rhinoscopy but are visible on nasoendoscopy. In cases of choanal polyps, the polyp stalk can often be seen originating from the accessory ostium of the maxillary sinus.

Radiology

Plain radiographs of the paranasal sinuses (Waters, AP, Caldwell and lateral positions) can show mucosal thickening and the presence of air-fluid boundaries in the sinuses, but are less useful in cases of polyps. Computed tomography (CT, Cf soan) examination is very useful to clearly see the condition of the nose and paranasal sinuses whether there is an inflammatory process, anatomical abnormalities, polyps or obstruction in the ostiomeatal complex. CT is especially indicated in cases of polyps that fail to be treated with drug therapy, if there are complications from sinusitis and in planning surgical procedures, especially endoscopic surgery.

Differential Diagnosis

The differential diagnosis of nasal polyps is:

1. Nasal tumors
   Benign or malignant tumors in the nasal cavity or sinuses can cause symptoms similar to nasal polyps, such as nasal congestion, nosebleeds, and facial pain.
2. Deviated nasal septum
   A deviated septum is a condition in which the nasal septum (the wall in the middle of the nasal cavity) is misaligned, causing one or both sides of the nose to become blocked. A deviated septum causes chronic nasal congestion, especially on one side. There is no abnormal tissue growth such as polyps.

Management

The main goal of nasal polyp management is to reduce clinical symptoms, prevent complications and recurrence. Treatment is done by surgery, medicamentous or a combination of both. Medical Drug treatment of nasal polyps is by using corticosteroid preparations, either locally or systemically.

- The use of topical steroids can reduce the size of polyps and complaints of symptoms due to polyps.
- Local steroid preparations that are often used are beclomethasone dipropionate, triamcinolone acetonide, budesonide, fluticasone propionate and mometasone furoate. Budesonide and fluticasone propionate have the highest effect, the duration of administration is 4-6 weeks. Systemic corticosteroids are given in the form of prednisolone with an oral dose of 60 mg/day for four days, then gradually reduced by 5 mg/day with a total dose of 570 mg for 10-14 days.

Non-medicinal

Some methods of nasal polyp surgery are as follows:

1. Polyp extraction
   This is the simplest procedure for cleaning nasal polyps. It is performed with local or general anesthesia, and polyp extraction is performed with a polyp snare or Blakesley forceps.
2. Ethmoidectomy
   The goal is to:
   - Remove all polyp tissue with all ethmoid cells
   - Ensure drainage of the ethmoid labyrinth into the nasal cavity
   - Prevent complications to the orbit and frontal and maxillary sinuses

There are several ethmoidectomy surgery techniques including extranasal ethmoidectomy and a combination of intranasal and transantral. Intranasal ethmoidectomy is simpler and can be performed with local anesthesia and does not cause scars on the face. But the operating field is very narrow, while in extranasal ethmoidectomy the operating field is wider and safer but the operating technique is more difficult and complicated because opening the nasal bone from the outside can be used for orbital decompression and if necessary can open the frontal or sphenoid sinus (Netter, 2022)

CONCLUSION

Chronic Rhinosinusitis with bilateral Nasal Polyps (CRSwNP) is a condition that requires a multidisciplinary approach and long-term management. In this case report, an adult patient with complaints of chronic nasal congestion, anosmia, rhinorrhea, and postnasal drip showed advanced nasal polyps that were proven clinically and radiologically. After the diagnosis was confirmed through physical examination, nasoendoscopy, and CT scan of the paranasal sinuses, the patient underwent a combination therapy of intranasal corticosteroids, systemic antibiotics (in case of acute infection), and Functional Endoscopic Sinus Surgery (FESS). The evaluation results showed significant improvement in clinical symptoms and increased patient quality of life, as evidenced by a decrease in the Sino-Nasal Outcome Test (SNOT-22) score after therapy. Thus, this case study confirms that:1) Bilateral CRSwNP requires careful diagnosis and appropriate intervention; 2) The combination of drug therapy and FESS surgery provides good clinical results, especially in improving nasal function and reducing recurrence; 3) Post-therapy evaluation using objective measurement tools such as the SNOT-22 is important to monitor therapy response.

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