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CASE REPORT: INDIFFERENCE TO NUMBNESS ENDS MORBUS HANSEN

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ABSTRACT

Background : Morbus Hansen (MH) which is called leprosy or leprosy is an infectious disease that causes health problems throughout the world. Leprosy is spread all over the world, especially in tropical and subtropical areas and attacks all ages with the highest frequency in the age group of 20 to 30 years. **Case Presentation** : Mr. AB, male, aged 33 years, came complaining of numbness and frequent tingling. Hands and feet began to swell and sore. Some toenails fall off unnoticed. Physical examination found composmentis awareness. The general status of the patient was madarosis in both eyelashes, the eyes looked anemic. Ears found infiltrates in both earlobes. Dermatological status in the facial region and superior extremities showed multiple hyperpigmented macules and patches, well defined, geographic shape, sizes vary. Bacteriological examination with Slit Skin Smear on the earlobes found 1-10 Acid-Fast Bacilli (AFB) / 100 fields of view (+1). Bacteriological Index obtained +1. **Conclusion**: The patient was diagnosed with MB type leprosy accompanied by Erythema Nodusum Leprosum

Keywords:*Morbus Hansen;Numb; pins and needles*

INTRODUCTION

Morbus Hansen (MH) which is called leprosy or leprosy is an infectious disease that causes health problems throughout the world. Problems that arise are not only from a medical perspective but also affect the social life of sufferers because of the bad stigma from society. MH is a chronic infection in humans caused by the bacterium Mycobacterium leprae which first attacks the peripheral nerves, then affects the skin, oral mucosa, upper respiratory tract, reticuloendothelial system, eyes, muscles, bones and testes but never affects the central nervous system. Leprosy is spread all over the world, especially in tropical and subtropical areas and attacks all ages with the highest frequency in the age group of 20 to 30 years[1].

In 1962 Ridley and Jopling classified MH into 5 types in a clinical spectrum, namely polar tuberculoid leprosy (TT), bordeline tuberculoid (BT), mid borderline (BB), bordeline lepromatous (BL) and polar lepromatous (LL). WHO since 1981 has recommended the use of multidrug therapy (MDT) consisting of rifampicin, dapsone and clofazimine. For therapeutic purposes, WHO classifies leprosy patients into paucibacillary (PB) and multibacillary (MB) types. MB regimen with more than 5 skin lesions or patients with positive AFB receive a combination treatment consisting of rifampicin, dapsone and clofazimine[2].

Leprosy reaction is an acute condition in the chronic course of the disease which gives symptoms and signs of acute inflammation in the skin lesions of leprosy patients. This leprosy reaction can appear before, during and after leprosy treatment which can occur in 30-50% of leprosy patients. In general, leprosy reactions are divided into two, namely the reversal reaction (RR) or type 1 reaction and Erythema Nodosum Leprosum (ENL) or type 2 reaction[3].

CASE REPORT

Mr. AB, male, 33 years old, Acehnese, Indonesian citizen. The patient comes from Tanjong Meuleuweuk Hamlet, Krueng Lingka Village, Stepan District, North Aceh District, Aceh. Number RM 002161, came with his wife to the skin and genital polyclinic at Cut Meutia Hospital on Tuesday, January 11 2022. The patient brought a referral from the Simpang Tiga Health Center with a suspected diagnosis of Leprosy (Hansen Disease).

Anamnesis conducted with the patient obtained the main complaint of numbness and often tingling which was felt about 5 months ago. Initially, complaints were only felt in both hands and began to spread to the forearms, feet and lower legs. The patient did not feel itching or pain at the site of the spot. Then the patient complained that his hands and feet began to swell and get injured. Some of the patient's toenails also fell off without the patient

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realizing it, the patient admitted that he only felt a little pain at the location of the detached nail. These complaints are felt to be getting worse and the patient also feels weak and has pain in the head so that the patient is not efficient in earning a living.

The patient works as a coolie. Every day the patient admits to eating irregularly, depending on the income earned. To the patient's knowledge, none of the neighbors had ever had a similar disease or skin disease that needed to take medication for a long time. From his previous medical history, the patient stated that he had had a traffic accident several years ago and had never had similar complaints before. Family history of disease has a father with a history of hypertension and has a mother with a history of diabetes mellitus. The patient said that there were no other family members who experienced something similar. History of drug allergies, atopy, diabetes, jaundice, high blood pressure, and malignancy was denied. From the medical history, the patient admitted that he had been to the Puskesmas twice and was given Paracetamol 500 mg.

On physical examination found composmentis awareness. Blood pressure 110/90 mm Hg, pulse 92 beats/minute, respiratory rate 21 beats/minute. Patient weight 70 kg, height 165 cm, body mass index 25.7. The general status of the patient was found to be a normocephalic head, no hair abnormalities were found, madarosis was seen on both eyelashes, eyes looked anemic, but no icteric signs and lagophthalmos were found. Ear examination revealed infiltrates in both earlobes. There were no abnormalities in the nose and throat.

Dermatological status in the facial region found multiple hyperpigmented macules and patches, well defined, geographic shape, sizes varying from 0.3x0.5cm – 0.5x1cm discretely scattered with a symmetrical distribution. The right auricular region of the tragus has pustules. Infiltrates were seen on both the right and left auricularis.

There is no efflorescence in the dermatological status of the anterior and posterior thoracoabdominal region. Dermatological status of the superior extremity region found multiple hyperpigmented macules and patches, well defined, geographic shape, size varied between 0.3x0.5 cm – 0.5x1 cm discretely scattered with symmetrical distribution and multiple erythematous nodules round shape, firm boundaries, variable diameter between 0.3 – 0.5cm scattered discretely with asymmetrical distribution, on palpation there is a soft consistency, tender and warm to touch, xerotic skin (+). Regions of the nails digiti I-IV pedis dextra et sinistra and manus dextra et sinistra obtained multiple excoriation, clear boundaries, geographic shape, size 0.1x0.2 – 0.2x0.3cm covered with blackish brown crusts, anonychia (+). Sensibility examination revealed a decrease in the sense of touch, pain and temperature in the brachii, ante brachii, manus, pedis dextra et sinistra. Nerve examination found nerve thickening on the auricular nerve magnus, left ulnar nerve and anesthesia obtained little pinkie clawing, left median nerve occurred anesthesia obtained maternal clawing without tenderness. Examination of voluntary muscle tests on the hands and feet showed that muscle strength was still within normal limits (grade 5).

Bacteriological examination on January 10, 2022 with a Slit Skin Smear on the earlobes found 1-10 Acid Resistant Bacillus (BTA) / 100 visual fields (+1). Bacteriological Index obtained +1. The recommended examination can be done by histopathological examination to confirm the clinical picture and determine the classification of leprosy.

Based on the history, physical examination and supporting examinations, the diagnosis of this patient is MB type leprosy accompanied by Erythema Nodusum Leprosum.

The treatment given when you first come to the skin and genital polyclinic at Cut Meutia Hospital is prednisolone tablets 5 mg 2x1/day in the morning and afternoon each of 4 tablets, omeprazole tablets 20 mg 2x1/day 30 minutes before meals and fucilex 2% cream 5grams 2x1/day on wounds and application for the first package of multidrug therapy multibacillary (MDT MB) at the Simpang Tiga Health Center.

Patients and families are given consultation, information and education (IEC) regarding the illness and its causes, the therapy given and plans for giving MDT as many as 12 packages, the importance of adherence to taking medication, side effects of drugs that may occur, the course of the disease, complications that may occur, regular control for leprosy reactions as well as checking, protecting and caring for both hands and feet to prevent further complications. The prognosis for patients with quo ad vitam is bonam, quo ad functionam is dubia ad bonam

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to dubia ad malam and quo ad sanationam, namely dubia ad bonam to dubia ad malam.

DISCUSSION

Leprosy is a chronic infection that mainly affects the skin and peripheral nervous system(5). The causative germ is Mycobacterium Leprae which is a rod-shaped, acid-fast, obligate intracellular bacteria and cannot be cultured in artificial media. Mycobacterium leprae cannot synthesize the purines and iron needed for its metabolism so that this germ will take the necessary substances from its host. This germ takes 11-13 days to divide. This long replication time causes a long incubation period of leprosy(6). The incubation period for leprosy is between 5 years for the paucibacillary type and can reach up to 20 years for the multibacillary type.

In the above case the patient is a 33 year old man, ethnic Acehnese. Leprosy can infect individuals of various ages, with a range of 3 weeks to more than 70 years. But the most are at a young and productive age, especially seen at the age of 20 to 30 years. Referring to the Indian Association of Leprologists (IAL) it was found that in various countries in the world including Indonesia, cases of leprosy were found more in men than women with a ratio of 2:1. The low incidence of leprosy in women is probably due to environmental and socio-cultural factors[7].

Anamnesis conducted with the patient showed that the main complaint was numbness and often tingling which was felt about 5 months ago. Initially, complaints were only felt in both hands and began to spread to the forearms, feet and lower legs. The patient did not feel itching or pain at the site of the spot. Leprosy has 2 spectrum forms, namely tuberculoid and lepromatous forms. The clinical characteristics are[8]:

1. Tuberculoid: one or more skin lesions with erythema or hypopigmentation, well-defined, hypoaesthetic, frequently raised, active, there is a spreading on the edges and the center is clear. In this disorder there is a cell-mediated immune response.
2. Lepromatous: initially multiple lesions, sore, erythematous or hypopigmented macules that may develop into papules, nodules, or plaques; will eventually become hypoesthesia. Bilateral and symmetrical skin infiltrates of the face, hands, and feet may occur without an initial maculopapular lesion

The patient also complained that his hands and feet were starting to swell and get injured. Some of the patient's toenails also fell off without the patient realizing it, the patient admitted that he only felt a little pain at the location of the detached nail. This is consistent with the reaction type 2 lesions in the form of red and painful nodules. The clinical picture of a leprosy reaction is very typical in the form of red, hot, swollen, painful, and can be accompanied by impaired nerve function. After the lesions heal, they may leave a purplish tint that is difficult to see in people with dark skin[3].

The patient works as a coolie. Every day the patient admits to eating irregularly, depending on the income earned. Environmental factors are related to the occurrence of leprosy, including poverty, being born or living in endemic areas and having family members who suffer from leprosy[9].

Dermatological status in the facial region found multiple hyperpigmented macules and patches, well defined, geographic shape, sizes varying from 0.3x0.5cm – 0.5x1cm discretely scattered with a symmetrical distribution. The right auricular region of the tragus has pustules. Infiltrates were seen on both the right and left auricularis. There is no efflorescence in the dermatological status of the anterior and posterior thoracoabdominal region. Dermatological status of the superior extremity region found multiple hyperpigmented macules and patches, well defined, geographic shape, size varied between 0.3x0.5 cm – 0.5x1 cm discretely scattered with symmetrical distribution and multiple erythematous nodules round shape, firm boundaries, variable diameter between 0.3 - 0.5 cm scattered discretely with a symmetrical distribution, on palpation there is a soft consistency, tenderness and warmth to touch, xerotic skin (+). Regions of the nails digiti I-IV pedis dextra et sinistra and manus dextra et sinistra obtained multiple excoriation, clear boundaries, geographic shape, size 0.1x0.2 – 0.2x0.3cm covered with blackish brown crusts, anonychia (+).

The clinical picture of leprosy reflects the pathology, which depends on the balance between multiplication of bacilli and the cellular immune response of the host. In 1962, Ridley and Jopling classified leprosy on a clinical basis, which included

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typical tuberculoid (TT), borderline tuberculoid (BT), borderline borderline (BB), borderline lepromatous (BL), and lepromatous leprosy (LL)[10].

Bacteriological examination on January 10, 2022 with a Slit Skin Smear on the earlobes found 1-10 Acid Resistant Bacillus (BTA) / 100 visual fields (+1). Bacteriological Index obtained +1. This examination is carried out to help establish a diagnosis and treatment options. According to Ridley, the IB range starts from 0 to 6+, with 0 meaning there is no AFB in 100 visual fields (LP)[11].

1) 1+ if 1-10 BTA in 100 LP
2) 2+ if 1-10 BTA in 10 LP
3) 3+ if 1-10 BTA average in 1 LP
4) 4+ if 11-100 BTA average in 1 LP
5) 5+ if 101-1000 BTA average in 1 LP
6) 6+ if > 1000 BTA on average in 1 LP

Based on the history, physical examination and supporting examinations, the diagnosis of this patient is MB type leprosy accompanied by Erythema Nodusum Leprosum. Diagnosis is based on finding the cardinal signs (main signs) according to WHO, ie[7]:

1. Patches of numb skin. Hypopigmented or erythematous patches, flat (macules) or raised (plaques). Numbness of the spots is total or partial to touch, temperature, and pain.
2. Peripheral nerve thickening May/without pain and impaired function of the affected nerves, namely:
   b. Sensory dysfunction: numbness
   c. Impaired motor function: paresis or paralysis
   d. Impaired autonomic function: dry skin, cracks, edema, impaired hair growth.
3. Acid-fast bacteria were found. Examination materials came from skin smears of the earlobes and skin lesions on the active parts. Sometimes material is obtained from a nerve biopsy.

The diagnosis of leprosy is established when at least one cardinal sign is found. On Mr AB, 3 out of 3 cardinal signs were found. Characteristics of leprosy of the multibasilar (MB) type, where there are more than five skin lesions and/or involvement of more than one nerve branch with impaired neurological function. Leprosy reaction is an episode in the chronic course of leprosy which is an immune reaction (cellular response) or antigen-antibody reaction (Humoral response) which can be detrimental. Leprosy reactions can occur before treatment, during treatment, and after treatment. Leprosy reactions are divided into type 1 reactions and type 2 reactions. Type 2 reactions are often referred to as ENL reactions (erythema nodusum leprosum), because they give a clinical picture of inflammation of the skin, namely erythema, tender and painful nodules, and can ulcerate. Usually on the arms and legs. These symptoms generally disappear within a few days or a few weeks, and can also be followed by the formation of new nodes, while old nodes become purplish.

The goals of leprosy management are: breaking the chain of transmission, preventing drug resistance, shortening the treatment period, increasing the regularity of treatment and preventing the occurrence of defects or preventing the increase in defects that existed before treatment.

The treatment given when you first come to the skin and genital polyclinic at Cut Meutia Hospital is prednisone tablets 5 mg 2x1/day in the morning and afternoon of 4 tablets each, omeprazole tablets 20 mg 2x1/day 30 minutes before meals and fucilex 2% cream 5grams 2x1/day on wounds and application for the first package of multidrug therapy multibacillary (MDT MB) at the Simpang Tiga Health Center. In 1995 WHO recommended the treatment of leprosy with Multi Drug Therapy (MDT) for PB and MB types. Multi Drug Therapy (MDT) is a combination of two or more anti-leprosy drugs, one of which is rifampicin as an anti-leprosy which is strong bactericidal while other anti-leprosy drugs are bacteriostatic. Adult multibacillary (MB) patients on monthly treatment: the first day (the drug is taken in front of the officer) a) 2 capsules of rifampicin @ 300 mg (600 mg) b) 3 tablets lampren @ 100 mg (300 mg) c) 1 tablet of dapsone/DDS 100 mg Daily treatment: day 2 to 28 d) 1 tablet lampren 50 mg e) 1 tablet dapsone/DDS 100 mg. One blister for 1 month. It takes 12 blisters taken for 12-18 months[11].

According to WHO recommendations, leprosy reactions should be treated immediately with anti-inflammatory or immunosuppressive drugs. Most commonly used corticosteroids[5]. In this case prednisone was given. Prednisone can suppress inflammation by several mechanisms, namely immunocompetent cells and macrophages in

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circulation are reduced due to corticosteroid effects which can suppress macrophage responses and the formation of proinflammatory mediators, such as prostaglandins, leukotrienes, and platelet activating factor (PAF) is inhibited[12]. Prednisone is a glucocorticoid group which can cause side effects on the gastrointestinal system. A significant increase in the risk of peptic ulcer and gastrointestinal bleeding, for prophylaxis can be given a class of proton pump inhibitors such as omeprazole[5]. Fucilex cream is given to wounds and prevents secondary infections. Fucilex cream contains Fusidic acid which works in a bacteriostatic and bactericidal manner at high doses. Fusidic acid inhibits bacterial protein synthesis (in the translocation process) by binding to translocation (a protein needed during the bacterial translocation process in the ribosome) which is also known as the elongation factor G (EF-G). This will inhibit the translocation process from the P site to the A site, so that the protein needed by the bacteria is not formed, and eventually the bacteria undergo lysis.

In addition to pharmacological therapy, non-pharmacological therapy can also be given, namely tmanagement of physical medicine and rehabilitation, so that leprosy sufferers can return to society as productive and useful human beings, through medical rehabilitation services in the form of physical therapy, occupational therapy, provision of orthoses and prostheses, wound care, psychological support through prescribing appropriate exercises[11].

CONCLUSION

It has been reported Mr. AB, male, 33 years old, Stepan District, North Aceh District, Aceh. Number RM 002161, came with his wife to the skin and genital polyclinic at Cut Meutia Hospital on Tuesday, January 11 2022. The patient brought a referral from the Simpang Tiga Health Center with a suspected diagnosis of Leprosy (Hansen Disease).

Anamnesis conducted with the patient showed that the main complaint was numbness and often tingling which was felt about 5 months ago. Diagnosis MB type leprosy accompanied by Erythema Nodusum Leprosum and grade 1 leprosy defects are enforced based on anamnesis, physical examination and supporting examinations.

The treatment given when you first come to the skin and genital polyclinic at Cut Meutia Hospital is prednisolone tablets 5 mg 2x1/day in the morning and afternoon each of 4 tablets, omeprazole tablets 20 mg 2x1/day 30 minutes before meals and fucilex 2% cream 5grams 2x1/day on wounds and application for the first package of multidrug therapy multibacillary (MDT MB) at the Simpang Tiga Health Center.

The prognosis for patients with quo ad vitam is bonam, quo ad functionam is dubia ad bonam to dubia ad malam and quo ad sanationam, namely dubia ad bonam to dubia ad malam.

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