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Herpez Zoster in Teens

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ABSTRACT
Herpes Zoster (HZ) is a reactivation of the Varicella Zoster Virus (VVZ), which is characterized by an acute unilateral vesicular eruption grouped with radicular pain around the dermatome. The incidence of HZ increases with age and is rare in children. The prevalence of HZ in children can occur, if they have a history of primary intrauterine infection, are immunocompromised, and who are infected with varicella in the first year of life. One daughter, Ms. B, 15 years old, came to the Skin and Venereology Clinic, PKU Muhammadiyah Surakarta Hospital on December 28, 2022 with complaints of itching and heat, a lesion in the form of multiple clustered vesicles, round in shape, with a size of 0.3-0.5 cm above the skin, erythematous, unilateral, not crossing the midline, the age of the vesicles in one group is the same, but with other groups it is not the same, the skin between groups is normal. Treatment was given acyclovir 4x800 mg per day taken orally for 5 days, triamcinolone 4 mg/day, compressed NaCl 15 minutes 2x daily, caaladine lotion 2x daily on intact lesions and mupirocin calcium on open wounds

Introduction

Shingles (HZ) is a disease of reactivation of the Varicella Zoster virus in patients who have been infected. The disease is characterized by vesicles in a dermatome of the spinal or cranial ganglia, where the virus is dormant; and intensive radicular pain in the lesion area. The incidence of shingles increases directly with age. Reactivation occurs if the body's immune system decreases (SE, 2008). The characteristic of this disease is characterized by the presence of unilateral vesicular rashes clustered with radicular pain around the dermatome. Varicella is a primary infection that occurs for the first time in individuals who come into contact with the varicella zoster virus. Varicella zoster reacts, causing a recurrent infection known as Shingles (Mancini & Hartman, 2020). The prevalence of shingles is not influenced by race, gender, or season. The incidence of the disease increases with age and is rarely found in children. Shingles can occur in children who have a history of intrauterine primary infection, immunocompromised conditions, and who are infected with varicella in the first year of life (Schmader et al., 2012).

The incidence of shingles increases with age and is usually rare in children (Malik et al., 2013). In the United States more than 1 million cases of herpeszoster occur each year and more than 90 percent of adults have serologic evidence of varicella zoster virus infection and are at risk for shingles. The incidence of shingles is about 3-4 cases per 1000 people. People over the age of 85 who are not vaccinated are 50% more likely to have shingles and 3% of patients requiring hospital treatment. The incidence of shingles increases dramatically with age, and approximately 30% of the population (1 in 3 people) will develop shingles during their lifetime (SAGE, 2014). Reactivation of varicella zoster virus can be triggered by various factors such as surgery, irradiation, old age, and a weakened state of the body including malnutrition, a person who is on long-term immunosuppressant medication, or suffering from a systemic disease such as hypertension (Widaty et al., 2019).

Shingles usually begins with the presence of prodormal symptoms, such as pain, itching or tingling in the lesion area within a few days or weeks, alodinia or pain due to light touch, before a rash develops or it can also be a rash does not appear known as zoster sine herpete. Other symptoms, such as headache, malaise, photophobia may arise. In addition to pruritus in lesions, the main complaint of about 75% of patients is pain, burning, throbbing or stabbing. Symptoms may resemble pain caused by ischemic heart disease, cholecystitis or renal colic (Dewi & Angraini, 2020). Supporting examinations for shingles include Tzank tests, skin biopsies, viral cultures, fluorescent antibodies, serological tests, and polymerase chain reaction (PCR). Shingles in immunocompetent children can heal on its own so that the management given is only supportive, but the provision of specific therapy can be considered in certain cases.

Research Methods

A woman, Ms. B, 15 years old, as a student or cottage student came to the Skin and Genital Clinic of PKU Muhammadiyah Surakarta Hospital on December 28, 2022 with complaints of small nodules that gathered filled with water with a reddish base since 2 days ago on the left back and there was also a nodule with a reddish base the size of a needle under the left armpit. Patients complain of these nodules, pain like being stabbed, heat, pain and itching. Since one week ago the patient complained of the body feeling hot not too high, sedentary, not accompanied by chills. Difficulty sleeping and decreased appetite in the last 2 days due to pain in the body that is getting worse. Patients also claim complaints that are felt burdensome during activity but also do not relieve at rest. The patient does not complain of skin complaints in other parts, does not complain of visual or hearing disorders.

The patient denied that he had ever had smallpox before, but after researchers conducted alloanamnesis with the family, the patient's mother claimed that her son had experienced measles at the age of 6 months. The patient is a distant boarding school student and rarely interacts with family. Before the fever, the patient confessed that he had an irregular sleep rhythm, because he had to organize and prepare for exams for junior high school graduation requirements, because of this his sleep time was only 4 hours/day for the past month. The patient denies the presence of drug allergy. The patient denies that there is a family history of diabetes mellitus and hypertension.

Shingles supporting examinations in this case, such as antigen/nucleic acid identification examination by PCR method, and Tzank test in the vesicle eruption phase, are not carried out because the results of the history and physical examination include UKK and Predilection is enough to show the establishment of the diagnosis of Shingles.

Figure 1 Dorsal view. On the upper left ridge as high as T2-T6 small vesicles clustered in multiple round shapes with a size of 0.3-0.5 cm above the erythematosus skin, unilateral, not crossing the midline (picture of the first day of treatment)

Figure 2 Ventral view, on the left chest small vesicles clustered multiple round with a size of 0.3-0.5 cm above the erythematosus skin, unilateral, not crossing the midline (picture of the first day of treatment)

Pharmacological therapy for shingles is given acyclovir 4x800 mg per day orally for 5 days, triamcinolone 4 mg / day, NaCl compresses 15 minutes 2x a day, caladine lotion 2x a day on intact lesions and mupirocin calcium on open wounds. Patients are recommended for hospitalization to facilitate treatment, and for observation of shingles complications in the form of dermatovenerological neuralgia to treat together with neurological. In integrated care, patients also received gabapentin 300 mg / day for 4 weeks, paracetamol 3x500 mg / day and methylprednisolone injection 125 mg / 8 hours and replacement of oral acyclovir to acyclovir IV 20 mg / kg body weight / day 4 times a day for 5 days. Aciclovir is dissolved in 100 cc 0.9% NaCl and administered within 1 hour.

Figure 3. Dorsal view. Lesions after treatment day 4

Figure 4. Ventral view. Lesions after treatment of the 4th day

Results and Discussions

Establish the diagnosis of Shingles by anamnesis, physical examination and supporting examinations if needed. Ms. B, a patient came to the Skin and Genital Clinic of PKU Muhammadiyah Surakarta Hospital with complaints of small nodules that gathered filled with water with a reddish base since 2 days ago on the left back and there was also a nodule with a reddish base the size of a needle under the left armpit (Dworkin et al., 2007). From the results of the history carried out by autoanamnesis and aloanamnesis patients said Since one week ago the patient complained of the body feeling hot not too high, sedentary, not accompanied by chills. Difficulty sleeping and decreased appetite in the last 2 days due to pain in the body that is getting worse. Patients also claim complaints that are felt burdensome during activity but also do not relieve at rest. The patient does not complain of skin complaints in other parts, does not complain of visual or hearing disorders (Nadia Rosmalia & Dian Isti Angraini, 2020).

Before the fever complaint appeared, the patient admitted that he had an irregular sleep rhythm, because he had to organize the organization and prepare for exams for junior high school graduation requirements, because of this his sleep time was only 4 hours / day for the past month (Bina et al., 2016). The patient denies the presence of drug allergy. From the history of the disease, researchers conducted alloanamnesis with the patient's mother, the patient's mother admitted that her child had been exposed to measles when he was 6 months old (Sampathkumar et al., 2009).

Based on the results of the history of patients exposed to measles / Varicella Zoster Virus at the age of 6 months or including the early age of life, this is in line with risk factors for shingles under the age of 50 years, or in children who have a history of intrauterine primary infection, immunocompromised conditions, and who are infected with varicella in the first year of life, (Kanamori et al., 2019).

The diagnosis of shingles is generally based on the clinical picture with the establishment of the diagnosis with the presence of prodromal symptoms in the form of pain, typical dermatomal distribution, the presence of clustered vesicles or in some cases papules found, several groups of lesions fill the dermatome, especially where there are sensory nerves, there is no history of similar rashes in the same distribution (getting rid of herpes simplex zosteriformis), and pain and allodinia (pain arising with a stimulus which normally does not cause pain) at the area of the rash (Horiuchi, 2022). Shingles usually begins with prodromal symptoms for 2-4 days, namely systemic (fever, dizziness, malaise), and local (muscle pain, itching, aches). After that, erythema will arise which turns into clustered vesicles with edematous and erythematous skin bases (Whitley & Gnann, 2002). The vesicles contain clear fluid, then become cloudy, can become pustules

and crusts. Shingles is initiated by the Varisella Zoster virus where the budding period of this virus is about 7-12 days, the active period in the form of new lesions that still arise, lasts a week, and the resolution period lasts 1-2 weeks (Wu et al., 2013).

In this case, shingles management is given antivirals in the form of acyclovir, corticosteroids in the form of triamcinolone to relieve inflammation, NaCl compresses to relieve pain (analgetic), besides that NaCl has an anti-inflammatory effect and reduces edem through the process of osmosis (Evagelin H, et al).

Caladin lotion contains calamine, zinc oxide, and diphenhydramine HCl, as anti-irritants and as topical antihistamines, given to closed lesions because the zinc oxide substance is able to form a layer so that it is not easily rubbed and gets worse. Mupirocin as an antibiotic for vesicles that have ruptured so as to prevent infection.

To facilitate integrated care, patients are advised to be hospitalized, for that oral acyclovir replacement is carried out to intravenous, and triamcinolone replacement to methylprenisolone IV. In integrated care, patients also get neuralgia drugs in the form of gabapentin has antispasmodic and muscle relaxant effects to overcome neuropathic pain and paracetamol for systemic analgetics and antipyretics.

Prognosis pada pasien ini quo ad vitam: bonam, quo ad functionam: dubia ad bonam, quo ad sanationam: bonam.

Conclusion

A 15-year-old girl diagnosed with shingles had a history of varicella zoster infection when she was 6 months old. In these cases immunodeficiency triggers repeated varicella zoster infections giving rise to Shingles. Maintaining the body's immune system and managing stress and doing varicella vaccine / measles vaccine can avoid the occurrence of shingles.

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