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УДК 616.5-002.2

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### Febianto J.<sup>1</sup>, Mylnikova E.S.<sup>2</sup>, Savchenko N.V.<sup>2</sup>, Береснева Т.А.<sup>3</sup> CASE REPORT OF NUMMULAR ECZEMA

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**Аннотация.** В статье представлен обзор литературы по вопросам эпидемиологии, этиологии, клиники, лечения нумулярной экземы. Описан клинический случай.

**Annotation.** The article presents the issues of epidemiology, etiology, clinical features, treatment of the nummular eczema. The clinical case is presented.

Ключевые слова: нумулярная экзема, клинический случай.

**Key words:** nummular eczema, clinical case.

#### Introduction

Nummular eczema is a is a pruritic eczematous dermatosis and characterized by inflammation of the skin layers of the epidermis and dermis in response to the influence of external and internal factors [6]. Nummular eczema is a common skin disease which often has a chronic and relapsing course. The high incidence, chronicity, frequent recurrences and severity of nummular eczema leads to a massive impact on the quality of life [8].

The purpose of this study is to present the issues of epidemiology, etiology, clinical features, treatment of the nummular eczema and to demonstrate the clinical case report of nummular eczema at one of the health facilities in Tangerang, Indonesia.

#### Materials and methods of the research

In the present study domestic and foreign sources on the epidemiology, etiology, clinical features and treatment of nummular eczema were analyzed. Search systems as PubMed and Google Scholar were used. A clinical case of nummular eczema is presented.

#### **Results and discussion**

Nummular eczema or by another name "discoid eczema" is a manifestation of a chronic inflammatory process in the skin, characterized by an itching sensation and multiple lesions that are characteristic of coins or tend to be slightly oval. This term was first coined by Marie-Guillaume-Alphonse Devergie in 1857. Nummular eczema most often appears on the extremities, especially the lower legs, but can also appear in other places such as the body, palms, or soles of the feet [4, 6].

Epidemiologically, nummular eczema is more common in adults and is rarely found in infants and children. If found, it usually occurs at 5 years of age 1. The peak age incidence occurs between the ages of 15-25 in women, 50-65 years in men, and 65-74 years. There are no predilection factors for sex, race, or ethnicity in nummular eczema [2, 4]. Prevalence ranges from 0.1% to 9.1% [2].

The exact etiology of nummular eczema is still unknown, but several factors such as atopy, xerosis / dry skin (especially in elderly patients), exogenous disorders due to irritants and / or allergens (house dust mites & candida albicans) [6], infection (Staphylococcus aureus) [5] and certain medications (isotretinoin, gold, interferon, ribavirin, etc.) have been linked as causes of nummular eczema [1, 4].

Most studies find that very few patients with numular eczema have a previous history of atopy (1.5% - 11%) or in the patient's family (2.5% - 15%). However, a study

conducted in Thailand found quite high results regarding a history of atopy in patients with numulatory dermatitis (50%) and in the patient's family (38%) [4].

Factors that are associated as causes of nummular eczema such as the aging process, bacterial colonization, certain drugs, and allergies are said to damage the lipid barrier in the skin whose main function is to prevent water evaporation so that skin moisture is maintained. The release of cytokines such as IFN-g and IL-17 causes activation of T-cells, dendritic cells, Langerhans cells resulting in epidermal hyperplasia and formation of skin lesions [7]. In nummular eczema lesions can be found mast cells, and increased neuropeptide substance P (SP), and calcitonin generelated peptide (CGRP). This increase stimulates the release of cytokines by keratinocytes so that the inflammation increases [6].

The pathophysiology of dermatitis is generally due to causes originating from within the body (genetic, immune dysregulation) and outside the body (environment, allergens). Disorders of the epidermis of the skin can cause dry skin due to lack of transepidermal water / TEWL (Transepidermal Water Loss) which makes it easier for allergens to enter the skin. Disorders of the skin epidermis can be caused by mutations of the filaggrin gene, a cytokine IL-4 that inhibits the filaggrin protein, thereby damaging the skin epidermis. In addition, damage to the epidermis of the skin can also be caused by irritation due to scratching, exposure to hot water, UV rays, and sweating [3].

Filaggrin protein has an important role in the function of the skin's defense system by binding to structural proteins in the outer skin to form a strong defense. Damage to filaggrin causes leakage in the skin's defenses resulting in water evaporation which explains dry skin. Dry skin will become more sensitive and make it easier for allergens to get into the skin and cause inflammation. The inflammatory process by immune cells will further damage the skin's defense system so that infection and repeated inflammation can occur.

Nummular eczema patients usually present with complaints of itching that varies from mild to severe which can get worse at night or at rest. In addition to nummular eczema, there are also skin lesions / abnormalities. Lesions that appear on the skin can be erythematous plaques that are shaped like coins with defined borders formed from fused papules and papulovesicles. The papules and papulovesicles with the confluence will eventually burst and there will be exudation in the form of pin-points which will dry out and become yellowish crusts. On the edge of the plaque can be found small papulovesicles that fuse with the plaque so that the lesion becomes larger. The skin around the lesions is usually normal but can also be dry. Healing in these lesions starts from the middle so that the appearance is similar to the lesions in dermatomycosis [4, 6]. The pattern of spread of the lesion may be solitary or multiple and symmetrical in the extremities. The lesions most commonly appear on the extremities, especially the lower limbs, but can also appear on the trunk, hands and feet [6].

Histopathological examination is a reflection of the stage at which the biopsy is performed. Acute spongiosis is found or not with spongiotic microvesicles. In the

subacute state, there is parakeratosis, crusting and thickening, epidermal hyperplasia and spongiosis of the epidermal layer [4].

Laboratory tests can be performed to rule out a differential diagnosis. Patch tests can help rule out a diagnosis of contact dermatitis. In one study in India, about 50% of patients whose patch test was positive for colophony, nitrofurazone, neomycin sulfate, and nickel sulfate. If you check the Serum IgE results, the results are within normal limits. A bacterial culture can also be used to rule out a diagnosis of Staphylococcus aureus infection. In addition, wood lamp and KOH examinations can be done to rule out a diagnosis of dermatophytosis [4, 6].

The most likely differential diagnosis of nummular eczema is allergic contact dermatitis, stasis dermatitis, atopic dermatitis, tinea corporis. Psoriasis and impetigo can also be considered as a differential diagnosis of nummular eczema [4].

The treatment of nummular eczema includes drug and non-drug treatment strategies. Medium-strong potency topical corticosteroids in a form of cream / ointment is a first-line therapy of nummular eczema. Calcineurin inhibitors (tacrolimus, pimecrolimus), compresses with callicus permanganas solution in case of exudative lesions, systemic and topical antibiotics in case of bacterial infection also can be used. Avoidance of too hot or cold temperatures, limitation of using soaps, synthetic and wool fabrics, using moisturizing cream are the important part of the optimal skin care.

Nummular eczema can persist for months due to its chronic nature. Usually, nummular eczema lesions appear at the same site. In general, from the results of a study of patients with nummular eczema, it was found that 22% recovered, 25% never recovered for several weeks - years, and 53% were never free from lesions unless they were still on treatment. Recurrence at the site of previous involvement is a feature of this disease [4].

Patient Mrs. W., 46 years old, came to the Dermatology and Venereology polyclinic at Siloam Lippo Village General Hospital with complaints of reddish spots in the dextra cruris region since 1 week ago. The spots initially start on the right cruris, are small and itchy then get bigger and bigger and there is spread to the left cruris, sura and popliteal regions and feel itchy and hot that gets worse at night. In the habit of scratching his feet due to itching, the patient has daily activities as a housewife. On physical examination, it was found that in the right cruris, right sura, and left popliteal regions there were multiple erythematous macules, well demarcated, nummular in size with crusts, erosions, and excoriations.



Fig. 1. Lesions at cruris dextra et sinistra







Fig. 2. Multiple erythematous macules, well demarcated, nummular in size with crusts, erosions, and excoriations

The differential diagnosis of stasis dermatitis can be ruled out because the patient denies wearing tight pants. Circumcision neurodermatitis can also be excluded because the neurodermatitis lesions appear to be centered and thickened, lichenification, hyperpigmented area, indistinct borders, and the lesion is solitary whereas in this patient this was not the case. Contact dermatitis predilected lesions between the fingers, whereas the patient did not complain of itching and there were no visible lesions between the fingers and toes. The diagnosis of impetigo can also be excluded because the location of the predilection for the lesion is on the face, whereas this patient had no

lesions on his face and did not show the characteristic feature of impetigo, namely honey colored crust. The patient also denied any family history of skin disease or chemical exposure so that a diagnosis of psoriasis could be ruled out. For the diagnosis of Tinea corporis, the characteristic feature is the active central healing edge, the lesion margins appear polycyclic due to several separate fused lesions whereas in this patient there was no specific dermatophyte lesion as described above, so the diagnosis of Tinea corporis could also be ruled out.

The treatment given to patients was methylprednisolone 4mg tablets 2x1 per day after meals, loratedine 10mg tablets 1x1 per day after meals, desoximetasone 0.25% 15g cream 2x1 per day, and bactoderm 10g oint 2x1 per day. Giving desoximetasone 0.25% cream to be applied topically is the first line in the treatment of nummular eczema. In addition, 10 mg loratedine tablets are also given for itching complaints that arise. While 10g oint bactoderm for smearing is also given to treat bacterial infections. Education is also given to patients to maintain skin moisture by using a moisturizer, maintain cleanliness, and avoid contact with chemicals that can worsen the disease.

#### **Conclusion**

With proper treatment, nummular eczema can be cleared over a few weeks, although the course can be chronic and characterized by relapses and remissions. Moisturizing of the skin and avoidance of identifiable exacerbating factors, such as hot water baths and harsh soaps may reduce the frequency of recurrence. Diseases that present with annular lesions may mimic nummular eczema and the differential diagnosis is broad. As such, physicians must be familiar with this condition so that an accurate diagnosis can be made, and appropriate treatment initiated.

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УДК 616.594.171.4

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# «ТРАНСФОРМИРОВАННЫЙ» ВАРИАНТ ТРИХОФИТИИ: СЛУЧАЙ ИЗ ПРАКТИКИ.

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# Chernykh A.I., Kreneva K.V. TRANSFORMED VARIANT OF TRICHOPHYTHIA: A CASE FROM PRACTICE.

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**Аннотация.** В статье приводится описание клинико — эпидемиологические особенностей трихофитии у детей, представлен клинический случай трансформированного варианта трихофитии у подростка-борца, который занимается в спортивной секции дзюдо.

**Annotation.** The article describes the clinical and epidemiological features of trichophytosis in children, presents a clinical case of a transformed version of trichophytosis in a teenage wrestler who is engaged in the sports section of judo.

**Ключевые слова**: атипичные дерматомикозы, tinea gladiatorum, трансформированный вариант трихофитии.

**Key words:** atypical dermatomycosis, tinea gladiatorum, a transformed variant of trichophytosis.

#### Введение

Дерматомикозы (от греч. derma — на – кожа, mykes — гриб, osis — воспаление, англ. син. tinea или ringworm) — грибковые контагиозные заболевания, вызванные дерматомицетами родов Trichophyton, Місгоsрогит, Еріdermophyton, при которых поражаются эпидермис, дерма, придатки кожи