Profile of Tinea Capitis in Skin and Gender Poly at RSUD Dr. Rm Djoelham Binjai Periode 1 Januari 2014 – 1 September 2018

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Abstract: Introduction: Tinea capitis (*ringworm of the scalp)* is a disorder of the skin and the hair of the head caused by a species of dermatophyte. This disorder is characterized by scaly lesions, reddish tint, alopecia to kerion. (1) Tinea capitis usually occurs, especially in children, although there are also cases in adults are usually infected with *Trichophyton tonsurans.* Tinea capitis can also be seen in adults with AIDS. (2) Objective: To determine the overall incidence of Tinea Capitis in the general hospital, Dr. RM. DJOELHAM THE CITY OF BINJAI. Research method: This research uses a descriptive method with a retrospective approach. Data obtained from the medical records of patients of Tinea Capitis the period 1 January 2014 – 1 November 2018. Result : On 1 January 2014 – 1September 2018 in the polyclinic of the health of the skin and venereal Hospital DR RM DJOELHAM the City of Binjai an incident the highest incidence of Tinea Capitis at the age of 1-20 years (52,4%), and to incidence of most common of Tinea Capitis occurs in women that is of 66.7% compared to men of 33.3%, based on the work, student / school have a high risk factor to be exposed to Tinea Capitis i.e. 61,9%. Conclusion: Based on the results of the research overview of the incidence of Tinea Capitis in the Polyclinic of the Health of the Skin and Venereal Hospital DR. RM DJOELHAM the City of Binjai much happens in women that is of 66.7% compared to men of 33.3%, at the age of 1-20 years (52,4%), based on the work, student/school have a high-risk factor to be exposed to Tinea Capitis 61,9%.

1 INTRODUCTION

Tinea capitis (*ringworm of the scalp)* is a disorder of the skin and the hair of the head caused by a species of dermatophyte. This disorder is characterized by scaly lesions, reddish tint, alopecia to kerion (Budimulja et al, 2016). Tinea capitis is a disorder on the scalp caused by fungi dermatophytes. Tinea capitis usually occurs, especially in children, although there are also cases in adults are usually infected with *Trichophyton tonsurans*. Tinea capitis can also be seen in adults with AIDS (Verma et al, 2008).

Tinea capitis can be divided into different types, namely: gray patch ringworm → papule billion around the estuary of the hair, hair easily is broken, leaving alopecia brown. Black dot ringworm → fungal infection in the hair (endotriks) or outside a hair (ektotriks), the hairs break off, leaving a macular blackish brown. Kerion → .the skin of the head seen small ulcers with squama. Tinea Favosa → red spots yellowish covered crusting cup-shaped (skutula), foul-smelling (mousy odor), the hair on top of it broken up and easily removed (Siregar, 2014).

The spread of infection of tinea capitis can be spread by species zoophilic, geophilic, and anthropophilic. Species zoophilic generally found in the body of an animal but is transmitted to the human body. Animals and pets are the primary sources of infection in urban areas (for example, M. canis in dogs and cats). Transmission can occur through direct contact with animals that are specific or indirectly when the hair of infected animals carried in a shirt or contained in the building or contaminated food. The area exposed such as the scalp, beard, face, and hands. Dermatophytes are inflamed usually caused by an infection caused the organism zoophilic (Verma et al, 2008).

As for the treatment of tinea can be given a topical therapy in the form of selenium sulfide,

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povidone-iodine, or ketoconazole, or systemic therapy with griseofulvin (Verma et al, 2008; Siregar, 2014).

Based on the background above, with the number of incidence of Tinea Capitis, the researcher interested in doing research about the profile of the incidence of Tinea Capitis in the Clinic of Skin and Venereal HOSPITAL DR RM Djoelham the City of Binjai in the period of 1 January 2014 – 1 September 2018.

2 MATERIAL AND METHODS RESEARCH

This research uses a descriptive method with a retrospective approach. Data obtained from the medical records of patients of Tinea Capitis the period 1 January 2014 – 1 September 2018. By using the examination of KOH 10%.

2.1 Definition

Tinea capitis (*ringworm of the scalp*) is a disorder of the skin and the hair of the head caused by a species of dermatophyte. This disorder is characterized by scaly lesions, reddish tint, alopecia to kerion (Budimulja et al, 2016)Tinea capitis is a disorder on the scalp caused by fungi dermatophytes. Tinea capitis usually occurs, especially in children, although there are also cases in adults are usually infected with Trichophyton tonsurans. Tinea capitis can also be seen in adults with AIDS. (Verma et al, 2008). Tinea Capitis is a superficial fungal infection that affects the scalp and hair. (Siregar, 2014).

2.2 Etiology

Infection on the scalp by the dermatophytes is usually the result of transmission from person to person. These organisms remain alive on combs, brushes, couches, and sheets for a long time. Species of dermatophytes only specific endemic in parts of the world sure In general, M. Audouinii is the causative agent of classical in Europe and America and M. Ferrugineum most common in Asia, T violaceum also is common in Romania, Italy, Portugal, Spain, and the former Soviet Union, as well as in Yugoslavia. In Africa, T violaceum, T schoenleinii, and M canis is commonly isolated. (6)

T. violaceum and M. canis is the agent that is prevalent in Asia. T schoenleinii is common in Iran and Turkey, while M canis is common in Israel. Epidermophyton floccosum and T concentricum not attack the skin of the head of hair. Trichophyton rubrum, which is the dermatophyte most commonly isolated in the whole world, is not a common cause of tinea capitis On infections ectothrix, fragmentation of the mycelium into spores occurs just below the cuticle. Different from infection endothrix, the destruction of the cuticle occurs. This type of infection is caused by T verrucosum, T mentagrophytes, and all species of Microsporum.(Kondo et al, 2006)

2.3 Epidemiology

The incidence of tinea capitis is still unknown, but it is usually found in children aged 3 - 14 years, rarely occurs in adults. Tinea capitis is found in many children of African descent, the Transmission increases with reduced hygiene personal, the area of residence are dense, and low socioeconomic status. Patients with a carrier symptomatic often found, and this causes tinea capitis challenging to eradicate. (2,4)

2.4 Risk Factors

1. Age

Tinea capitis often appears in children between the ages of 3-14 years. But in adults rarely occur due to changes in the PH of the scalp and an increase in fatty acids that are useful as protection against fungi. (Verma et al, 2008;Welsh et al,2006)

2. Gender

Tinea capitis is often encountered in children than adults. (Verma et al, 2008;N Rebollo et al,2008)

3. Environment

Hygiene poor, population density, and low socioeconomic increase transmission of the fungi. (Verma et al, 2008;N Rebollo et al,2008)

2.5 Diagnosis

1. Anamnesis

a. Grey patch ringworm

Tinea capitis, usually caused by the genus Microsporum and are often found in children. The cause in the form of the organism anthropophilic ektotric such as M. audounii or M. canis. Form of

tinea capitis is also known as a form of seborrheic dermatitis of the squama that stands out. Inflammation is minimal. The infected hair becomes gray and dull in the sheath arthroconidia, and hair breaking off at the top of the scalp (Verma et al, 2008;James et al.,2006)

Figure 1: Grey patch ringworm

b. Kerion celcii

Is the reaction of inflammation weight in tinea capitis, in the form of swelling which resembles a honeycomb with inflammation of the dense surrounding. When the cause is Microsporum canis and Microsporum gypseum, the formation of a kerion is often seen. Reduced when the cause Trichophyton tonsurans, and fewer when the cause is Trichophyton violaceum. This type is as a result of the reaction of hypersensitivity to infection. The spectrum of inflammatory diseases can occur ranging from folliculitis postular up to a kerion, which gives the picture such as "mud," the inflammatory with a sprinkling of damaged hair and orifice follicular that secrete pus. Inflammatory lesions usually pruritic, and may also pain, the presence of lymphadenopathy cervical posterior, fever, and lesions on the scalp that are bald. .(Verma et al, 2008;James et al.,2006)

Figure 2: kerion

c. Black dot ringworm

Mainly caused by the Trichophyton tonsurans and Trichophyton violaceum. At the beginning of the disease, the clinical picture resembles the abnormalities caused by the genus Microsporum. Hair exposed to the infection of the broken right on the estuary of the follicle, and what's left is the ends of the hair which is full of spora.(Verma et al, 2008;James et al.,2006)

Figure 3: Black dot ringworm

d. Tinea favus

Tinea favus is an infection of the clinical dermatophytes of the head, the skin is no hair, and or nails, characterized crusting dry and thick hair follicles that cause scarring alopecia. Tinea favus generally suffered before the adults continued adults, and is associated with malnutrition and poor nutrition. The most common cause is T. scholeinii, occasionally T. violaceum, and M. gypseum. .(Verma et al, 2008;James et al.,2006)

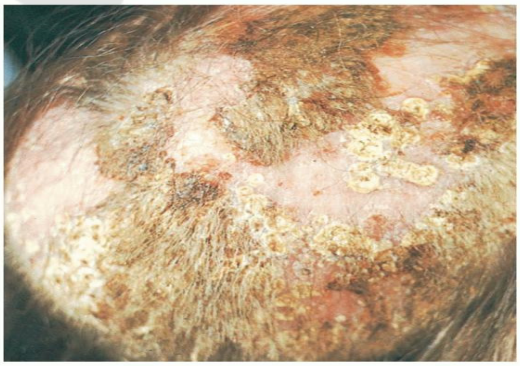

Figure 4: Tinea Favus

3 INVESTIGATIONS

- Ray Wood

Flouresensi positive infected by Microsporum audouinii, Microsporum canis, Microsporum femgineum, Microsporum distorturn, and Trichophyton schoenleinii. In a room that is dark skin under the lights, this flouresensi slightly blue. Dandruff is generally a bright bluish-white. The infected hair flouresensi bright green or greenish-yellow while the organisms endotrik, Trichophyton tonsurans does not seem flouresensi.(Verma et al, 2008;Siregar,2014)

- KOH 10%

Visible hyphae or spores and mycelium. Preparation directly from the hair can be visible hyphae or spores inside a hair (endotriks) or outside a hair (ektotriks). (Siregar,2014)

Positive results there are 2 possibilities:
1.Ektotrik: looks arthroconidia small or large form a layer surrounding the outside of the hair shaft.
2.Endotrik: looks arthroconidia in the hair shaft.(Verma et al, 2008)

TABLE 188-1
Laboratory Characteristics of Dermatophytes That Cause Tinea Capitis

ECTOTHRIX	ENDOTHRIX
Yellow-green fluorescence	Dull gray-green fluorescence
Microsporum audouinii	*Trichophyton schoenleinii*
M. canis	
M. ferrugineum	
No fluorescence	No fluorescence
M. fulvum	*T. gourvillii*
M. gypseum	*T. soudanense*
T. megninii	*T. tonsurans*
T. mentagrophytes	*T. violaceum*
T. rubrum	*T. yaoundei*
T. verrucosum	

3.1 Culture Examination

Speciation of fungi is based on the characteristics of the microscopic, macroscopic, and metabolism of the organism. Sabouraud Dextrose Agar (SDA) media is the most common insulation used. (Siregar,2014)

3.2 Pathogenesis

Infection endotrik and ektotrik except arthroconidia still contained in the hair shaft, replacing the keratin intrapilari, and reduce the intake with the cortex. As a result, hair is easily broken and separated on the surface of the head whereby the walls of the follicular does not support, leaving a small black dot. (Verma et al, 2008)

3.3 Pathofisiologi

The period of incubation of tinea capitis antropofilik is 2 to 4 days, Hyphae growing towards the follicle, the hair surface, and hyphae intrafollicular broken down into a chain of spores. The period of the deployment (4 days to 4 months) occurred during the lesions enlarge and appear new lesions. Three weeks hair started off a few millimeters above the surface of the skin. In the hair, hyphae into the top of the zone keratogenous and on the zone this is Adamson's "fringe" is formed day 12. There are no new lesions appear during a refractory period (4 months to several years). (Verma et al, 2008;Welsh et al,2006)

3.4 Differential Diagnosis

1. Alopecia areata (with the shape of the black dot), usually the skin looks slippery and brown.

2. Dermatitis Seboroika (with the form of tinea favosa), the hair looks oily, the skin of the head seemed covered squama oily.

3. Psoriasis (with a form of tinea favosa), scales (squama) thick, white, shiny and are kronik residif. (Siregar,2014)

3.5 Therapy

Systemic :

Griseofulvin with a dose of 0.5 – 1g for adults and 0.25 to 0.50 g for the children a day or 10-25 mg/kg. Given 1-2 times/day with long pengebotan depending on the location, cause and clinical, healed continue treatment for up to 2 weeks.

Ketoconazole 200 mg/day for ten days to 2 weeks the morning after a meal. Replace ketoconazole with itraconazole 2x 100-200 mg/ day. Terbinafine for 2-3 weeks, doses of 62.5 mg – 250 mg/day depending on weight. (Budimulja et al, 2016).

Topical

Wash the head and hair with shampoo disinfectant antimikotik such as a solution of salicylic acid,

benzoic acid, and sulfur presipitatum. Derivatives of imidazole 1-2% in cream or solution can cure, ketoconazole cream 2 %.(Siregar,2014)

4 RESULT

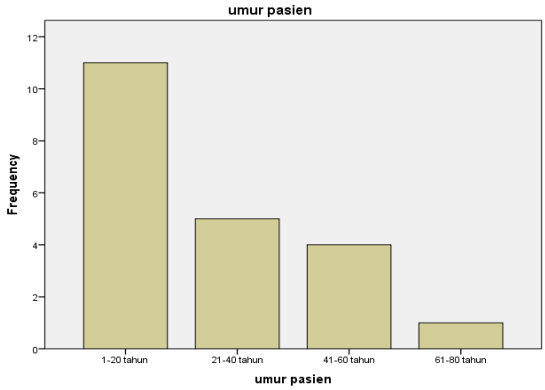

Figure 4.1 The incidence of tinea capitis is based on age

On 1 January 2014 – 1 September 2018 in the Polyclinic of the Health of the Skin and Venereal Hospital DR. RM. Djoelham the City of Binjai, the highest incidence of Tinea Capitis, are in the age range 1-20 years (52,4%), then at the age of 21 - 40 years (23,8%), aged 41-60 years (of 19.0%), and ages 61 - 80 (of 4.8%). This is in accordance with the theory described by Siregar, where the incidence of Tinea Capitis a lot happens before the age of 20 years. (Siregar,2014)

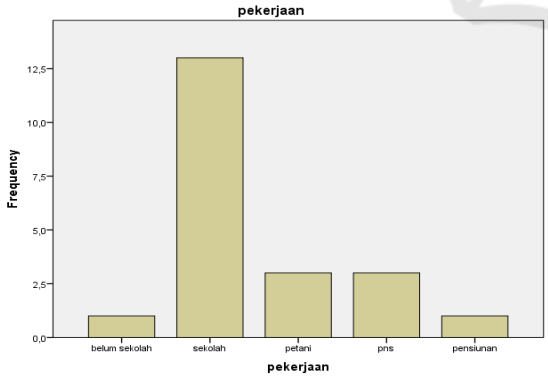

Figure 4.2 Occurrence of Tinea Kapitis based on work

The incidence of Tinea Capitis seen based on the work in getting that student/school have risk factors the risk of developing Tinea Capitis this is affected by the dirty environment and the air hot and humid, the results obtained,(61,9%) compared to farmers (14.3 %), civil servants (14.3 %), retired (4.8 %), and schools (4.8 %).

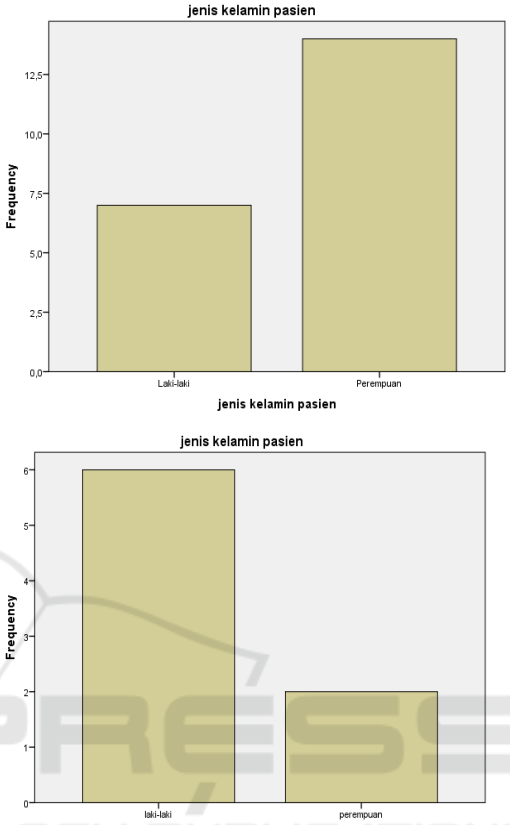

Figure 4.3 The incidence of tinea capitis by sex

Based on the diagram 4.3 the incidence of Tinea Capitis in a poly skin and venereal HOSPITAL DR. RM DJOELHAM the CITY of BINJAI more common in women (66,7%) than men (33,3%), for the year 2014, and in 2016 more common in men (28,6 %), and women (9.5 percent) and for years the incidence of tinea capitis is suffered by many women. This statement is inversely proportional to the research that has been done by Siregar in the study also found that men more often suffer from Tinea Capitis than females [3]. On the poly skin and venereal in hospital, Dr. RM DJOELHAM the CITY of BINJAI encountered many patients of Tinea Capitis sex women seeking treatment than men, and this is because women usually tend to be more worried about the change of the pigmentation of their skin and the impact on their social life.

5 DISCUSSION

In a study done at the polyclinic the health of the skin and venereal HOSPITAL DR. R. M. DJOELHAM the CITY of BINJAI in the Years 2014-2018 the patients with Tinea Capitis most in the age range 1-20 years, with female gender and employment status as a student/school. The same thing obtained in the research carried out in RSUP Sanglah Denpasar to get age group the highest in the 5-14 years (45,45%), while in RSU dr. Soetomo Surabaya age group the highest at the age of under 14 (93,33%).(Putu et al,2008;Suyoso et al,2008)

Research in Spain gain of 0.33% of school children with culture-positive tinea capitis in 1994 and in London reported a prevalence of 2.5 % in 1995. The prevalence of tinea capitis in the United States ranged from 3% to 8% in the child population .(Mohrenschlager et al,2005) from Indonesia that comes from RSUP Sanglah Denpasar to get to 0.32% of patients with tinea capitis were treated during the period January 2004 to December 2006. (Putu et al,2008) Other Data in the poly Dermatomikosis Unit Outpatient Skin and Venereal HOSPITAL dr. Soetomo Hospital Surabaya, there is 0,31-1,55% of new cases of tinea capitis between the years 2001-2006.(Suyoso et al,2008)

6 CONCLUSION

Tinea capitis (*ringworm of the scalp*) is a disorder of the skin and the hair of the head caused by a species of dermatophyte. This disorder is characterized by scaly lesions, reddish tint, alopecia to kerion. (Budimulja et al, 2016) The cause of the tinea capitis is a dermatophyte fungus. Tinea capitis usually occurs, especially in children, although there are also cases in adults are usually infected with Trichophyton tonsurans the most common cause Verma et al, 2008) incidence of Tinea capitis in the Polyclinic of the Health of the Skin and Venereal HOSPITAL DR. RM DJOELHAM the CITY of BINJAI In the year 1 January 2014 - 1 November 2018 more common in women that is of 66.7% compared to men of 33.3%, achieved the number of patients of Tinea Capitis as many as 50 people, with the age group is the largest 1 -120 of the year amounted to 52.4%, and a lot of students/school (61,9%).

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