

**MAJOR CAUSES OF TINEA CAPITIS INFECTION AMONG
CHILDREN IN ANAMBRA STATE**

SEMINAR PRESENTED

BY

**OGBA, CHUKWUMA JOSHUA
REG. NO: ASCOHT/0/16/5/041**

TO THE

**DEPARTMENT OF MEDICAL LABORATORY TECHNICIAN.
ANAMBRA STATE COLLEGE OF HEALTH TECHNOLOGY, OBOSI.**

14TH MAY, 2019

Summary

Tinea capitis is a common superficial fungal infection of the scalp and hair which is a type of dermatophytes characterized by its invasion into hair follicles and keratinized layer of hairy skin leading to hair loss, scaling, kerion, folliculitis, favus, black dot grey patch type, erythema or impetigo-like lesions. *Tinea capitis* is not really a worm but a fungal infection. It gets the name “ringworm” because the causative fungus makes circular marks on the skin often with flat centers and raised border which is as a result of the host reaction to the enzymes released by the fungus during its digestive process. Scalp and hair shafts can also be affected thereby causing small patches of itchy and scaly. It is a highly contagious infection that is usually spread by sharing personal belongings like combs, towel, hats, pillows, clipper, formites etc

INTRODUCTION

Tinea capitis is an infection of the scalp and hair shaft that are caused by filamentous fungi that are able to digest and obtain nutrients from keratin (a relatively insoluble protein, the primary component of skin, hair and nails). This organism grows on the host by simply colonizes the keratinized outermost layer of the skin such as scalp and hair shaft. The “disease” known as tinea or ringworm is the result of the host reaction to the enzymes released by the fungus during its digestive process.

Tinea capitis is a common superficial fungal infection of the scalp and hair. This is an exogenous infection that is characterized by invasion of

Main causes of *Tinea Capitis*.

Tinea capitis is caused by fungi of species of genera Trichophyton and Microsporum. The species of Trichophyton and Microsporum that cause Tinea Capitis includes the followings:

M. audouinii

M. canis

M. terrugineum

T. violaceum

T. tonsurans

T. soudanenses

T. mentagrophyte

.

Mode of Transmission

There are many way to transmit the *Tinea capitis* infection. Which includes:-

- Sharing of razor blade such as during shaving.
- Sharing of combs, scissors, and cap
- Through personal contact with an infected individuals.
- Poor personal hygiene.

TREATMENTS OT TINEA CAPITIS

Griseofulvin: This remains the "gold standard" of oral antifungal treatment for Tinea capitis.

Use of

fluconazole, terbinafine, ketoconazole, itraconazole have also being proven effective when griseofulvin fails due to drug resistance action of the spore forms.



www.emedicinehealth.com/image-gallery/tinea_capitis_picture/images.htm
www.mayoclinic.org/diseases-conditions/ringworm-scalp/symptoms-causes/syc-20354918

DIAGNOSIS OF TINEA CAPITIS

There are several tests to identify Tinea capitis infection and identify the fungal species that causes it.

□ **Wood's lamp test:** This is an ultraviolet light with a magnifying lens, only 50% of canis will show up as an apple green fluorescence on hair shaft under the light, the other fungi do not show the fluorescence material but rather an excretory product of the fungus which sticks to hairs, infected skin does not fluorescence.

□ **Microscopic test:** The mycologist pluck hair /skin scrap from around the infected area and place them in a staining solution to view under the microscope shafts. This technique identifies a fungal infection about 70% of the infection but cannot identify the species of Tinea capitis or dermatophytes.

□ **Culture of Tinea capitis:** Culture is needed to identify the species of Tinea fungus. This is best out in a mycology laboratory. The species is identified

growth microscopically or rather antler hyphae; presence of actidione to culture media inhibits environmental fungi but not dermatophytes. In culture or routine (Sabouraud's) medium is effective. A tooth brush or moistened cotton bud can be used to brush the affected area and then to inoculate media,

PREVENTION OF TINEA CAPITIS

1. Ensure that cases are treated quickly to prevent spread amongst a family or school population.
2. Screening close contacts and treating if positive.
3. Cleaning brushes and combs in a bleach solution and restricting the sharing of hair brushes, combs and hats.
4. Exclusion from school until appropriate treatment has been commenced.
5. Wash cloths with hot water with fungal soap after suspected exposure to ringworm.
6. Avoid walking on barefoot instead wear appropriate protective shoes in locker rooms and sandals at the bench.

References

- Adeleke S., Usman, B. and Ihesiulor, G. (2008). "Dermatophytosis among itinerant quranic scholars in Kano (Northwest) Nigeria" *Nigerian Medical Practitioner*. 53(3):33-35.
- Ahmed I., Zaffar, A. and Sarwat, N. (2006). "Prevalence of Tinea capitis and asymptomatic carriage amongst school going children". *Journal of Pakistan Association of Dermatologists*. 16:215-219.
- Akinboro O., Olayinka, A., Olasode, A. and Onayemi O. (2011) "The pattern, Risk factors and clinico-aetiological correlate of Tinea capitis among the children in a tropical community setting of Osogbo, South-Western Nigeria". *South-Western Nigeria Afro-Egypt Journal of Endemic Diseases*. (2):53- 64.
- Anosike J. C., Keke I. R. and Uwaezuoke J. C. (2006) "Prevalence and distribution of ringworm infection in primary schools in parts of Eastern Nigeria". *Journal of Applied Sciences and Environmental Management*. 9(3):21-25.
- Ayanlowo O., Akinkugbe A., Oladele R. and Balogun M. (2014). "Prevalence of Tinea capitis infection among primary school children in a rural setting in south-west Nigeria". *Journal of Public Health in Africa*. 5(1)
- Balci, E., Gulgun M., and Babacan, O. (2014). "Prevalence and risk factors of Tinea capitis and Tinea pedis in school children in Turkey". *Journal of the Pakistan Medical Association*. 64(5):514-518.
- Bennassar, A. and Ramon, G. (2010). "Management of Tinea capitis in childhood. *Clinical, Cosmetic and Investigational Dermatology*. 3: 89-91.
- David E., Davis, S., Alexiou, I. T., Handke R. and Hartley R. (2007). "*Description of Medical Fungi*". 2nd. Adelaide, Australia; 2: 3-13.
- De Hong, G.S., Dukik, K., Monod, M., Packeu, A., Stubbe, D., Hendrickx, M., Kupsh, C., Stielow, J.B., Freeke, J., Goker, M., Rezaei-Matehkolaei, A., Mirhendi, H and Graser, Y.(2017). "Toward a novel multilocus phylogenetic taxonomy for dermatophytes". *Mycopathologia* 182:5-31. Doi.10.1007/s11046-016-0073-9.
- Emele F. E. and Oyeka C. A. (2008) "Tinea capitis among primary school children in Anambra state of Nigeria". *Mycoses*. 51(6):536-541.doi:

- Feuilhade, M. and Lacroix, C. (2001) “Epidemiology of Tinea capitis”. *Presse Medicate*. 30(1):499-504.
- Friedlander, S. F., Rueda M., Chen B. K. and Caceros-Rios H. W. (2003). “Fungal, protozoal and helminthic infections”. In: Schachner L. A., Hansen R. C., editors. *Pediatric Dermatology*. 3rd. St. Louis, Mo, USA: Mosby; pp. 1093-1140.
- Grover, C., Arora P. and Manchanda V. (2010). “Tinea capitis in the pediatric population: a study from North India”. *Indian "Journal of Dermatology, Venereology and Leprohgy*. 76(5):527-532.
- Guerrant, R. L., Walker, D. H. and Weller, P. F. (2011). “*Tropical Infections Diseases: Principles, Pathogens and Practice*”.3rd. Philadelphia, Pa, USA: Elsevier Churchill, Livingstone.
- Higgins, E. M., Fuller, L. C., and Smith, C. H. (2000). “Guidelines for the management of Tinea capitis”. *British Journal of Dermatology*. 143(1):53-58.
- Johnson, L. (2003). “*Dermatophytes-the skin eaters*”. *Mycologist*. 17(4):147-149
- Mane, V., Urheka A. D., Mali, S., Patil, N., Patil, S. A., and Ajit K. G. (2013) “Tinea capitis infection in children along with tertiary care hospitals with reference to in vitro antifungal susceptibility testing of dermatophytes isolate”. *International Journal of Research and Reviews in Pharmacy and Applied Science*. 3:199-208.
- Mayowa, M., Godson, R. and Sridhar, A. M. K.(2015); “Use of *Azadirachta indica* derived germicidal in the management of Tinea capitis among pupils in selected public primary schools in Ibadan, Nigeria”. *Peak Journal of Medicinal Plant Research*; 3(1):9-15.

www.emedicinehealth.com/image-gallery/tinea_capitis_picture/images.htm
www.mayoclinic.org/diseases-conditions/ringworm-scalp/symptoms-causes/syc-20354918