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CASE REPORT

Kerion Celsi: A case report

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Abstract

Objectives: To present the case of a patient with superficial fungal infection of the hair shaft and leaflets of the scalp, called Kerion celsi. **Methods:** A 7-year-old male patient with erythematous lesions, alopecia and cervical lymphadenomegaly, followed during hospitalization for 7 days and for 60 days in periodic returns. The diagnosis of Kerion celsi and treatment with Griseofulvin (500 mg / day) for 60 days and ketoconazole shampoo were established. **Results:** There was a complete solution of the lesions after treatment with Griseofulvin (500 mg / day) for 60 days and Ketoconazole shampoo, but with permanence of alopecia. **Conclusions:** Tinea capitis is a fungal infection of the scalp that most often presents with areas of overdose and hair loss. Kerion celsi is a severe manifestation of tinea capitis resulting from an intense immune response to the infection caused by the fungus *Microsporum canis*. This case report emphasizes the importance of prior diagnosis and treatment so that you can avoid increased transmission and sequelae left by this fungal infection.

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INTRODUCTION

Scalp lesions have a wide range of differential diagnosis, including seborrheic dermatitis, alopecia areata, trichotillomania, psoriasis, folliculitis decalvans or pyoderma², and fungal lesions. Among the scalp-related fungal infections, tinea capitis is commonly characterized by pruritic areas of desquamation and hair loss. Its primary causative agents include *Trichophyton*, *Microsporum*, and rarely *Epidermophyton*^{3,6}. Tinea capitis caused by fungus belonging to *Microsporum* is the most common dermatophytosis among children, with highest prevalence among children aged 6–10 years. Tinea capitis can be contracted from humans or animals through direct contact^{3,6}.

The most common clinical findings of tinea capitis are single or multiple squamous areas with alopecia and black spots on follicular orifices (broken hair). The disease can have several clinical presentations ranging from non-inflammatory desquamation to a severe pustular rash with alopecia termed kerion celsi^{2,6}. Kerion celsi is a severe manifestation of tinea capitis resulting from an intense immune response to a fungal infection⁵. It is characterized by the onset of an inflammatory plaque with pustules and thick crusts. Persisting kerion celsi can lead to scarring alopecia^{5,6}.

This study was aimed to highlight a clinical presentation that requires high diagnostic suspicion and instant treatment to minimize its permanent effects.

CASE DESCRIPTION

A 7-year-old male sought consultation at a pediatric service for a desquamative erythematous lesion, alopecia, and cervical lymphadenomegaly, which had been progressing for approximately 3 weeks. The patient had no history of fever, immunodepression, or recent trauma. However, he had constant contact with domestic animals such as cats and dogs. He previously underwent a 7-day treatment with cephalexin (500 mg every 6 h) owing to a clinical suspicion of bacterial abscess. Physical examination revealed a plaque-like lesion in the right occipital lobe. The lesion was desquamative, erythematous, and painful with intense suppuration and localized hair loss, and it measured approximately 4 cm in diameter (Fig. 1). In addition, the patient presented palpable, enlarged lymph nodes in the anterior and posterior cervical regions and in the right occipital area; all lymph nodes were mobile with fibroelastic consistency, painless, and non-suppurative and did not adhere to deep planes.

Upon examination, the lesion was clinically diagnosed, and treatment with ceftriaxone and clindamycin was initiated based on the suspicion of a secondary bacterial infection. Laboratory tests, such as CBC and PCR, were requested to confirm the diagnostic hypothesis. Culture samples were also collected by scraping the lesion. Notably, laboratory tests did not show any significant changes. After 4-day evolution, pruriginous vesiculopapular lesions with an erythematous halo were observed in the posterior cervical region, abdomen, and



Figure 1. Desquamative, erythematous and painful lesion.

upper limbs (Fig. 2). No specific treatment was initiated for these miliary lesions presented by the patient in addition to the scalp lesion; instead, they were resolved through local hygiene.

Microsporum canis was isolated in the scrap culture of the occipital lesion, and kerion celsi was diagnosed. The patient was treated with oral griseofulvin (500 mg/day) for 60 days and daily applications of a ketoconazole-based shampoo. The antibiotic treatment was maintained for 7 days targeting a possible secondary bacterial infection Figures 3 - 4.

After 30 days of treatment, the lesion almost completely resolved (Fig 5); however, it was still hyperemic due to the inflammatory process. Further, there was slight hair growth, and lymphadenomegaly had resolved. Remarkably, the lesion completely resolved after 60 days of treatment with persistence of alopecia in the region.

DISCUSSION

Tinea capitis is an infection of the scalp, hair follicles, and intermediate skin primarily caused by the anthropophilic and zoophilic species of *Trichophyton* and *Microsporum*¹. This fungal infection has a strong social impact, causing great concern and leading to the restriction of social activities and school attendance of infected children². It is a superficial



Figure 2. Vesiculopapular and pruriginous lesions.

infection that primarily affects the hair shafts and follicles. Globally, *M. canis* is recognized as the main causative agent of tinea capitis. Children of school age are most affected by this infection; in fact, this infection is rarely observed in adults. Its transmission occurs through direct contact with infected animals, soil, and humans.

Tinea capitis is diagnosed based on optical microscopy observation of the fungal elements on a sample of hair or infected skin. In alopecia-affected areas, skin samples should be collected by scraping, and hair should be shaved off the scalp rather than plucked⁴. Further, culturing must be performed to determine the specific causative agent considering the high sensitivity and reliability of this technique².

The treatment of choice for kerion celsi is oral griseofulvin administration at a dose of 10–20 mg/kg/day for 6–8 weeks^{1,2,5}; however, itraconazole and terbinafine can also be used².

This report aimed to raise awareness regarding the diagnosis and treatment of kerion celsi because it is an easily transmitted disease, and delay in the administration of an accurate treatment can lead to increased number of asymptomatic carriers of the disease. It should be emphasized that a



Figure 3. Secondary bacterial infection lesions.



Figure 4. Secondary bacterial infection lesions.



Figure 5. Almost completely resolved lesion.

differential diagnosis between kerion celsi and bacterial scalp infections should be made because they have different treatment. Delayed treatment can result in serious social problems arising from the permanent scar and regional alopecia, possibly leading to self-esteem issues in children.

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