International Journal of Medical Science and Clinical Research Studies

ISSN(print): 2767-8326, ISSN(online): 2767-8342

Volume 03 Issue 07 July 2023

Page No: 1336-1339

DOI: https://doi.org/10.47191/ijmscrs/v3-i7-020, Impact Factor: 6.597

Kerion celsi: Clinical Features, Diagnosis and Therapeutic Approaches

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ABSTRACT

Querion de Celso, also known as Celso abscess, is a rare and severe inflammatory condition that arises as a complication of folliculitis. It is characterized by the formation of a purulent and fluctuant abscess in the pilosebaceous region. This dermatological disorder is primarily associated with the invasion of pathogenic bacteria, most commonly Staphylococcus aureus, into the hair follicles and sebaceous glands. Clinically, kerion de Celso presents as a prominent, erythematous, warm, and fluctuant lesion, often accompanied by local pain, restricted movement, and potential systemic symptoms such as fever and malaise.

The diagnosis of kerion de Celso relies on a comprehensive evaluation, including clinical assessment, histopathological findings, and microbiological analysis. These diagnostic modalities support the presence of an intense inflammatory response and aid in identifying the causative agent. Treatment of kerion de Celso necessitates a multidisciplinary approach. Systemic antibiotics are essential to eliminate the underlying bacterial infection, while analgesics and anti-inflammatory agents provide symptomatic relief. Surgical incision and drainage may be required in cases of extensive abscess formation. In more complex situations, immunosuppressive therapy may be considered to modulate the exaggerated inflammatory response. Adequate wound care and close follow-up are crucial to ensure successful resolution and prevent long-term complications.

In summary, Celso's kerion is a rare but potentially severe condition that requires prompt recognition and appropriate management to minimize complications and promote healing. Understanding the clinical, etiological, and therapeutic aspects of this condition is essential for healthcare professionals to deliver optimal care and improve clinical outcomes.

ARTICLE DETAILS

Published On:
15 July 2023

Available on:
https://ijmscr.org/

INTRODUCTION

Celso's kerion, also known as kerion abscess, is a rare and serious complication of folliculitis, characterized by a purulent and suppurative inflammation of bacterial origin in the pilosebaceous region. This dermatological disorder manifests as an intense inflammatory response, with the formation of a deep abscess, which can occur in various hairy areas of the body, being most common on the scalp.1

Celsus kerion arises from the colonization of pathogenic bacteria, mainly of the genus Staphylococcus aureus, which invade hair follicles and sebaceous glands. This bacterial invasion triggers an exaggerated immune response by the body, including the infiltration of inflammatory cells and the production of proinflammatory chemical mediators.1

Celso's kerion is a clinical entity whose etiology is mainly attributed to the colonization and invasion of pathogenic bacteria, mainly of the genus Staphylococcus aureus, in hair follicles and sebaceous glands. This infectious process is facilitated by predisposing factors, such as the presence of microtrauma to the skin, poor personal hygiene, lack of immunity or the presence of underlying medical conditions that compromise the immune response.1

Healthy skin is endowed with a protective barrier that limits bacterial colonization, but in Celso's kerion this barrier is compromised. Pathogenic bacteria, such as Staphylococcus aureus, find the opportunity to penetrate hair follicles and sebaceous glands through small lesions or abrasions in the skin. Once inside, these bacteria can evade host defense

mechanisms and proliferate, resulting in localized infection and triggering an excessive inflammatory response.2

Certain predisposing factors have been observed to increase susceptibility to the development of Celso's kerion. For example, children, especially those with poor hygiene practices or medical conditions that compromise the immune system, are at increased risk of developing this condition. In addition, exposure to domestic animals, such as cats or dogs, may play a role in the transmission of the infection, as these animals can act as reservoirs of pathogenic bacteria.2

The host immune response is also an important factor in the etiology of Celso's kerion. In individuals with a compromised immune system, either due to primary or secondary immunodeficiency, the body's ability to effectively fight bacterial invasion is diminished. This facilitates the spread and persistence of infection, which contributes to the development and chronicity of Celso's kerion.2

The etiology of Celso's kerion involves the colonization and invasion of pathogenic bacteria, mainly Staphylococcus aureus, into the hair follicles and sebaceous glands. This invasion is facilitated by predisposing factors, such as cutaneous microtrauma, lack of personal hygiene and compromise of the immune system. Knowledge of these etiologic factors is essential to understand and adequately address this complex dermatologic condition.2

EPIDEMIOLOGY

The epidemiology of Celso's kerion encompasses several aspects related to the distribution, incidence and risk factors associated with this dermatologic condition. Although it is a relatively rare condition, its occurrence may vary according to various demographic and environmental factors.3

The incidence of Celso's kerion shows a slight predilection for the pediatric age group, being more common in children than in adults. It is thought that this may be due to the immaturity of the immune system in children, which makes them more susceptible to bacterial colonization and excessive inflammation in response to infection.3

In terms of geographic distribution, Celso's kerion can be found worldwide, although its prevalence may vary in different regions. A higher incidence has been observed in areas with unfavorable socioeconomic conditions, where lack of access to adequate personal hygiene and health care services may contribute to the spread and persistence of infection.3

In addition, an association between Celso's kerion and exposure to domestic animals, especially cats and dogs, has been described. These animals can act as carriers of pathogenic bacteria, such as Staphylococcus aureus, which can be transmitted to humans through skin lesions or direct contact. Therefore, the presence of domestic animals in the affected individual's environment can be considered a risk factor for the development of this condition.3

In terms of individual predisposition, certain risk factors have been identified that may increase susceptibility to Celso's kerion. These include the presence of underlying medical conditions that compromise the immune system, such as diabetes, primary or secondary immunodeficiency, and the use of immunosuppressive drugs. In addition, poor personal hygiene practices, the presence of previous skin lesions, and exposure to poorly ventilated environments and crowded conditions can increase the risk of developing this condition.3

CLINICAL MANIFESTATIONS

Celso's kerion, also known as kerionous abscess, is clinically characterized by an intense and purulent inflammatory presentation, with local and systemic manifestations reflecting the severity of the infection. This dermatologic entity manifests as a prominent and painful lesion, with distinctive features that allow its clinical recognition.4

Locally, Celso's kerion manifests as an erythematous, warm and fluctuant tumor, which may present areas of necrosis or ulceration on its surface. The lesion is usually variable in size and can reach significant dimensions. Palpation reveals a firm and fluctuant consistency due to the accumulation of pus inside. The lesion may also be surrounded by an inflammatory halo characterized by erythema, heat and edema.4

Local symptomatology includes severe pain, tenderness to touch and limitation of movement in the affected area. The presence of pruritus is uncommon and, in general, a marked inflammatory response is observed with classic signs of inflammation, such as warmth and flushing.5

In addition to local symptoms, Celso's kerion may be accompanied by systemic symptoms reflecting the generalized inflammatory response and the presence of a severe infection. These symptoms include fever, malaise, asthenia and constitutional symptoms. Fever may be of variable intensity and associated with chills and profuse sweating. These systemic symptoms indicate a systemic inflammatory response and, in more severe cases, may be indicative of disseminated infection.5

The most common location of Celso kerion is on the scalp, specifically in the pilosebaceous area. However, it can also affect other hairy areas of the body, such as the beard, eyebrows and eyelashes. Rarely, there may be involvement of non-hairy areas, such as smooth skin, but this is less common.6

DIAGNOSIS

The diagnosis of Celso's kerion is established by integrating the clinical evaluation, histopathologic findings, and microbiologic results. The physician should perform a thorough history and physical examination to identify the characteristic signs and symptoms of this inflammatory dermatologic condition.7

During the clinical evaluation, the lesion is carefully observed, paying attention to its size, shape, location and macroscopic features. The erythematous, warm, fluctuant and painful tumor, with possible ulceration or necrosis on its

surface, is highly suggestive of a kerion of Celsus. The degree of local inflammation, perilesional redness and the presence of other signs of infection, such as suppuration and pruritus, should also be evaluated.8

Obtaining a sample of tissue or purulent fluid for histopathological analysis is essential in the diagnosis of Celso's kerion. Biopsy of the lesion allows visualization of characteristic changes, such as neutrophil infiltration of hair follicles and sebaceous glands, presence of abscesses, destruction of surrounding tissue, and intense inflammatory response. These histopathologic findings support the diagnosis of a kerion of Celsus.9

In addition, microbiological tests can be performed to identify the causative agent and determine antibiotic sensitivity. This can be accomplished by obtaining a sample of pus or tissue from the lesion for bacterial culture. Culture allows identification of the bacteria present, with Staphylococcus aureus being the pathogen most commonly associated with Celso's kerion. In addition, sensitivity testing can be performed to guide appropriate antibiotic treatment.9

In atypical cases or when disseminated infection is suspected, additional studies may be necessary, such as complete blood count, including CBC, erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP). These tests can help assess the presence of a systemic inflammatory response and rule out other concurrent medical conditions.10

The diagnosis of Celso's kerion is based on clinical evaluation, histopathologic findings, and microbiologic results. The presence of an erythematous, warm, fluctuant tumor, together with neutrophilic infiltration of hair follicles and sebaceous glands in the biopsy, supports the diagnosis. In addition, bacterial culture of the specimens obtained allows identification of the causative agent and determination of antibiotic sensitivity. Proper diagnosis of Celso's kerion is crucial to initiate timely treatment and prevent possible complications.10

TREATMENT

The treatment of Celso's kerion, being a severe purulent inflammatory condition, requires a comprehensive and multidisciplinary therapeutic approach. The main goal is to eradicate the underlying bacterial infection, control the excessive inflammatory response and promote healing of the lesion.11

Drug therapy is the mainstay of treatment of Celso's kerion. Broad-spectrum systemic antibiotics are used to combat the bacterial infection. The most commonly prescribed drugs are beta-lactams, such as penicillin or amoxicillin, in combination with a beta-lactamase inhibitor to improve their efficacy against methicillin-resistant Staphylococcus aureus. In case of allergy to beta-lactams, alternatives such as macrolides or fluoroquinolones can be used, although local bacterial resistance must be taken into account. The duration of antibiotic treatment varies according to the severity of the infection and clinical response, generally a prolonged course of 2 to 4 weeks is required.11,12

In addition to antibiotics, analgesics and non-steroidal anti-inflammatory drugs (NSAIDs) may be necessary to relieve pain and reduce local inflammation. These medications can help control symptoms and improve the patient's well-being. However, caution should be exercised in their administration, especially in cases of renal insufficiency, hypertension or gastric ulcers, as they may cause adverse effects.13

In some cases, when the lesion presents a significant accumulation of pus or is very fluctuant, it may be necessary to perform an incision and surgical drainage of the abscess. This allows evacuating the purulent content, reducing internal pressure and facilitating healing. It is important to perform this procedure under aseptic conditions and with the necessary precautions to avoid the spread of infection.13

In more complex situations, where Celso's kerion is recurrent or does not respond adequately to conventional treatment, additional therapies may be considered. This may include the use of immunosuppressive therapy, such as topical or systemic corticosteroids, to modulate the excessive inflammatory response and improve healing. However, this therapeutic option should be evaluated and supervised by a specialist, as it may carry potential risks and side effects.13

In addition to pharmacological treatment, it is essential to provide adequate local care for the lesion. This involves maintaining good personal hygiene, gently cleaning the affected area with antiseptic solutions and applying sterile dressings to prevent contamination and promote healing.13

Treatment of Celso's kerion involves the use of systemic antibiotics to combat bacterial infection, analgesics and NSAIDs to relieve pain and reduce inflammation, and in selected cases, incision and surgical drainage. In more complex situations, the addition of immunosuppressive therapies may be necessary. Close follow-up and adherence to treatment are crucial to achieve successful resolution and prevent long-term complications.13

CONCLUSIONS

In conclusion, Celso's kerion is a severe inflammatory and purulent complication of folliculitis, characterized by the formation of a kerion abscess in the pilosebaceous region. This dermatological condition is mainly associated with the invasion of pathogenic bacteria, especially Staphylococcus aureus, into the hair follicles and sebaceous glands. Celso's kerion presents clinically as an erythematous, hot, fluctuant lump with local symptoms of severe pain and limitation of movement, as well as possible systemic symptoms of fever and malaise.

The diagnosis of Celso's kerion is based on clinical evaluation, histopathological findings and microbiological results, which support the presence of an intense inflammatory response and the identification of the causative agent. Treatment of Celso's kerion requires a multidisciplinary approach, including the use of systemic

antibiotics to eradicate the bacterial infection, analgesics and anti-inflammatory drugs to control local symptoms, and in selected cases, surgical drainage of the abscess. In more complex situations, immunosuppressive therapies may be considered to modulate the excessive inflammatory response. Proper care of the lesion and close follow-up are critical to ensure successful resolution and prevent possible long-term complications.

Overall, Celso's kerion is a rare but potentially serious condition that requires early identification and appropriate treatment to minimize the risk of complications and promote healing. Understanding the clinical, etiologic and therapeutic aspects of this condition is essential for healthcare professionals to provide optimal care for affected patients and improve clinical outcomes.

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