

Dissecting Cellulitis of Scalp

Dissecting cellulitis of the scalp (DCS), also known as perifolliculitis capitis abscedens et suffodiens or Hoffman's disease, is a rare and chronic inflammatory condition primarily affecting the scalp. This disease leads to scarring alopecia, characterized by the formation of pus-filled lumps, nodules, and abscesses. It results in permanent hair loss in the affected areas due to follicular destruction. The exact etiology remains unclear, but the condition is believed to be associated with the blockage and rupture of hair follicles, leading to subsequent inflammation and secondary bacterial infections.

Pathogenesis

The underlying pathophysiology of DCS involves follicular occlusion, a process wherein hair follicles become obstructed, leading to follicular rupture and the formation of abscesses. These ruptured follicles result in inflammatory reactions, which may include the recruitment of neutrophils and the formation of pus-filled nodules.

DCS is part of a group of disorders collectively referred to as the follicular occlusion tetrad, which includes acne conglobata, hidradenitis suppurativa, and pilonidal sinus disease. These conditions share a common pathophysiological mechanism, marked by the blockage of hair follicles, leading to follicular rupture and subsequent inflammatory responses. Notably, patients with DCS often present with a history of other follicular occlusion disorders, suggesting a genetic predisposition to these conditions.

Clinical Features

Dissecting cellulitis of the scalp typically manifests as painful, pustular lesions that evolve into large, draining abscesses. These lesions are commonly located on the crown and posterior scalp, although they can also appear on other areas of the scalp. The condition leads to progressive scarring alopecia as the follicular destruction increases. Over time, the affected scalp may show shiny, atrophic patches due to the destruction of the hair follicles.

Patients may also experience pain, swelling, and pruritus in the affected areas. The lesions often rupture, discharging pus and mucopurulent material, which may further contribute to the spread of infection and scarring. In more advanced cases, the scarring alopecia may result in permanent hair loss in the affected regions, making early intervention crucial.

Diagnosis

The diagnosis of dissecting cellulitis of the scalp is typically made through clinical examination and patient history, particularly when there is a history of similar follicular occlusion disorders. In some cases, further culture swabs or biopsy may be required to rule out secondary bacterial

infections or other causes of scalp lesions, such as fungal infections or neoplastic processes. Histopathology of the affected tissue may reveal inflammatory infiltrates, epidermal rupture, and abscess formation, which are characteristic of the condition.

Management

Management of DCS focuses on reducing inflammation, controlling infection, and preventing further scarring. The treatment strategy may involve both topical and systemic therapies, depending on the severity of the condition.

- **Topical Treatments:** In mild cases, topical corticosteroids can be used to reduce inflammation and prevent further follicular damage. Regular use of an antiseptic shampoo (e.g., chlorhexidine or benzoyl peroxide) can help to reduce bacterial colonization and prevent infection. It is also advisable for patients to avoid oil-based hair products that can exacerbate follicular blockage.
- **Systemic Treatments:** Oral antibiotics, particularly tetracyclines (e.g., doxycycline), are often used to control bacterial infections associated with the condition. These antibiotics have the added benefit of reducing the inflammation associated with DCS. For more widespread or severe cases, oral steroids may be used in the short term to control acute inflammation.
- **Oral Isotretinoin:** In cases that are refractory to other treatments or in severe disease, oral isotretinoin may be used. This medication, a derivative of vitamin A, has potent anti-inflammatory effects and helps to reduce sebaceous gland activity, which is thought to contribute to follicular occlusion in DCS. Treatment with isotretinoin often lasts 6 months or longer, depending on the severity of the disease, and patients undergoing this treatment require regular blood tests to monitor for potential adverse effects, including liver toxicity and hyperlipidemia.
- **Surgical Interventions:** For large abscesses or persistent lesions that do not respond to medical management, incision and drainage or even excision may be necessary. Surgical treatment is often reserved for cases with significant scarring or hair loss.

Prognosis and Complications

Dissecting cellulitis of the scalp can result in permanent scarring and hair loss if not appropriately managed. The recurrence of lesions is common, even with effective treatment. Psychosocial impacts, such as self-esteem issues related to hair loss, may also affect patients, especially in severe cases.

Given its association with other conditions in the follicular occlusion tetrad, patients with DCS should be monitored for the development of hidradenitis suppurativa, acne conglobata, and pilonidal sinus disease. Additionally, those with a family history of these conditions may be at increased risk of developing DCS.

Conclusion

Dissecting cellulitis of the scalp is a rare, chronic inflammatory condition that can lead to scarring alopecia and significant cosmetic concerns. Early diagnosis and prompt treatment are essential to prevent permanent hair loss and reduce the risk of recurrence. While topical treatments may be effective in mild cases, systemic therapies such as oral antibiotics, steroids, and isotretinoin are key to managing more severe or refractory disease. A multidisciplinary approach involving dermatologists and, if necessary, surgeons is often required for optimal patient care.

References

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