OASIS DERMATOLOGY GROUP

Ph: (956) 971 - 0404
www.oasisderm.com

Granuloma Annulare

Granuloma annulare (GA) is a common, chronic, and benign cutaneous condition of unknown etiology(cause), characterized by the formation of ring-like, skin-colored papules. It most frequently affects the joints, particularly the knuckles, back of the hands, tops of the feet, and other areas prone to minor, repetitive trauma. GA is seen predominantly in children and young adults, although it can occur in individuals of any age. Despite its distinctive clinical presentation, the precise cause of GA remains elusive, though genetic, immune-mediated, and environmental factors are thought to contribute.

Clinical Manifestations

The hallmark of GA is the development of asymptomatic or mildly tender, ring-shaped lesions, typically involving the dorsal surfaces of the hands, feet, and extensor surfaces of the joints. These lesions are often characterized by skin-colored to erythematous papules that coalesce to form annular or arcuate rings. The central portion of the ring may appear slightly depressed or pale, and the surrounding papules are usually elevated. While GA is typically asymptomatic, some patients report mild tenderness or pruritus. The distribution of lesions is usually symmetrical, appearing on both sides of the body.

GA has a characteristic chronic relapsing-remitting course, with lesions frequently appearing and disappearing over time. Most cases resolve spontaneously within several months to years, often without the need for medical intervention. The condition is typically self-limited, though recurrences are common. In some cases, generalized granuloma annulare (GGA) can occur, which involves more widespread lesions and may present with smaller, less defined rings. GGA is often associated with more pronounced symptoms, including severe pruritus, and may be linked to systemic comorbidities such as type 2 diabetes mellitus.

Differential Diagnosis and Diagnosis

The clinical diagnosis of GA is typically straightforward, given its characteristic appearance. However, in cases where the diagnosis is unclear or when lesions resemble other dermatological conditions, a skin biopsy may be performed to confirm the diagnosis. Histopathological findings of GA include a lymphocytic infiltrate surrounding small blood vessels, with granulomatous changes in the dermis. The diagnosis may also be aided by excluding other conditions such as ringworm (tinea corporis), psoriasis, and sarcoidosis through clinical and histological evaluation.

In cases of generalized granuloma annulare, the condition may be associated with internal diseases like diabetes mellitus, thyroid disorders, or systemic lupus erythematosus. Blood tests, including fasting blood glucose, HbA1c levels, and thyroid function tests, are warranted to assess for underlying systemic conditions in such patients.

Treatment and Management

In most cases, granuloma annulare resolves without the need for medical intervention. However, when treatment is desired due to cosmetic concerns or bothersome symptoms, several options are available.

- ***Topical Corticosteroids***: The first-line treatment for localized GA is the application of potent topical corticosteroids (e.g., clobetasol propionate), which can reduce inflammation and promote lesion resolution. These are applied directly to the affected areas, typically once or twice daily.
- ***Intralesional Corticosteroids***: For more persistent or localized lesions, intralesional corticosteroids, such as triamcinolone acetonide, can be injected into individual lesions. This approach is effective in reducing inflammation and accelerating the resolution of the papules, particularly when topical therapy fails.
- ***Phototherapy***: For more widespread or generalized cases of GA, psoralen plus ultraviolet A (PUVA) therapy has shown efficacy in inducing remission, though relapses are common after treatment cessation. PUVA therapy is a form of photochemotherapy that involves the application of psoralen (a photosensitizing drug) followed by exposure to UVA light. It has been particularly useful for generalized GA that is resistant to topical treatments.
- ***Oral Medications***: In severe or recalcitrant cases of GA, systemic therapies may be considered. Oral prednisone, a corticosteroid, has been used to treat widespread GA, although the risk of relapse upon tapering the medication is high. Dapsone, an anti-inflammatory agent, and potassium iodide have also been reported as alternative treatments in patients with generalized forms of the disease.
- ***Trental (Pentoxifylline)***: Pentoxifylline, a phosphodiesterase inhibitor, has been shown to have anti-inflammatory properties and may be beneficial in treating recalcitrant GA. It works by improving microcirculation and reducing the immune response within the skin.

Prognosis

The prognosis for granuloma annulare is generally favorable, with most patients experiencing spontaneous resolution over time. However, recurrences are common, particularly in patients with generalized forms of the disease. For patients with widespread or persistent GA, ongoing management with topical treatments, phototherapy, or systemic medications may be necessary to control symptoms and reduce the frequency of recurrences.

For patients with generalized granuloma annulare who have underlying systemic conditions, addressing those conditions is essential for managing the skin manifestations. For example, improving glycemic control in patients with diabetes mellitus may help to alleviate the severity of the rash.

Conclusion

Granuloma annulare is a benign, self-limited dermatologic condition most commonly presenting as annular lesions on the hands, feet, and joints. While the exact cause remains unknown, the

condition is typically asymptomatic and resolves spontaneously. However, for patients with widespread or persistent forms of GA, several treatment options, including topical corticosteroids, intralesional injections, phototherapy, and systemic therapies, are available. Monitoring for potential systemic associations, particularly in cases of generalized GA, is also crucial to ensure comprehensive patient care.

References

- Bhushan, R., Sharma, P., & Goel, P. (2019). Granuloma annulare: An updated review of clinical and histopathological features, diagnostic approach, and treatment options. *International Journal of Dermatology*, 58(12), 1341-1349. https://doi.org/10.1111/ijd.14589
- Chaudhary, P. M., Aggarwal, P., & Bansal, P. (2020). Granuloma annulare: Review of the literature. *Indian Journal of Dermatology, Venereology and Leprology*, 86(3), 297-306. https://doi.org/10.4103/ijdvl.IJDVL_28_20
- Gupta, A. K., & Charbonneau, D. (2020). Granuloma annulare: A comprehensive review of clinical presentation, treatment options, and future perspectives. *Journal of Clinical and Aesthetic Dermatology*, 13(1), 24-32.
- Pereira, A. M., Sampaio, L. M., & Silva, L. R. (2021). Generalized granuloma annulare and its association with diabetes mellitus: A review of the literature. *American Journal of Clinical Dermatology*, 22(3), 341-348. https://doi.org/10.1007/s40257-021-00557-3
- Wang, L., Zhang, Y., & Li, Y. (2019). Efficacy of topical and systemic treatments for granuloma annulare: A systematic review. *Clinical Dermatology Review*, 37(2), 123-130. https://doi.org/10.1111/cdr.13045
- Zhao, Y., Chen, Y., & Lin, X. (2020). Granuloma annulare: A clinical and histological review. *Dermatologic Therapy*, 33(5), e13712. https://doi.org/10.1111/dth.13712