

CHAPTER 17

GRANULOMA ANNULARE (L92.0)

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REMEMBER

- Granuloma annulare (GA) occurs more frequently in young adults and children.
- The annual incidence of GA in the United States has been reported as 0.04%.
- GA is characterized by plaque lesions formed by small papules/plaques with annular alignment.
- Localized, generalized (=disseminated) and subcutaneous (=pseudoromatomoid nodule) GA forms are available.
- In order to call the disease generalized, at least ten lesions must be present.
- The fourth form of the disease, perforating GA, is very rare.
- GA is more common in women compared to men.
- Extremity involvement is frequently observed in localized form, and trunk involvement is more probable in the generalized form of GA.
- The exact etiology of GA is unknown. However, diabetes mellitus, various autoimmune diseases, malignancy, infections, and dyslipidemia may be associated with GA.
- It has been reported that the disease can also be triggered by some drugs. Amlodipine, levetiracetam, allopurinol, acetazolamide and various TNF-α inhibitors (note that these drugs are

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Infectious diseases

- Chlamydia and Borrelia infections may trigger granuloma annulare.
- Since atypical GA cases may be associated with human acquired immunodeficiency virus (HIV), hepatitis B (HBV), and hepatitis C (HCV) infections, relevant serological examinations can be requested and the opinion of an infectious diseases specialist can be obtained.
- It has been reported that SARS-CoV2 infection can also cause GA lesions.

Pulmonary diseases

- Granuloma annulare may be associated with sarcoidosis. In case of doubt, it should be examined from this perspective by a pulmonologist.

Ophthalmology

- Ocular involvement of granuloma annulare is very rare and only very few cases of uveitis, retinal vasculitis and keratitis precipitate formation have been reported in the literature. In the presence of symptoms and/or clinical suspicion, patients can be consulted with an ophthalmologist

REFERENCES

- Joshi TP, Duvic M. Granuloma Annulare: An Updated Review of Epidemiology, Pathogenesis, and Treatment Options. *Am J Clin Dermatol* [Internet]. 2022;23(1):37–50. Available from: <https://doi.org/10.1007/s40257-021-00636-1>
- Wang J, Khachemoune A. Granuloma Annulare: A Focused Review of Therapeutic Options. *Am J Clin Dermatol* [Internet]. 2018;19(3):333–44. Available from: <https://doi.org/10.1007/s40257-017-0334-5>
- BLUME-PEYTAVI U, ZOUBOULIS CC, JACOBI H, SCHOLZ A, BISSON S, ORFANOS CE. Successful outcome of cryosurgery in patients with granuloma annulare. *Br J Dermatol*. 1994;130(4):494–7.
- Heymann WR. Granuloma annulare's triangular association with malignancy. *J Am Acad Dermatol* [Internet]. 2018;79(5):822–3. Available from: <https://doi.org/10.1016/j.jaad.2018.08.036>
- Müller CSL, Vogt T. Granuloma annulare – is it a paraneoplastic condition for malignant lymphoma? *JDDG - J Ger Soc Dermatology*. 2021;19(6):803–12.
- Keimig EL. Granuloma Annulare. *Dermatol Clin* [Internet]. 2015;33(3):315–29. Available from: <http://dx.doi.org/10.1016/j.det.2015.03.001>
- Lukács J, Schliemann S, Elsner P. Treatment of generalized granuloma annulare - A systematic review. *J Eur Acad Dermatology Venereol*. 2015;29(8):1467–80.
- Robati RM, Bahmanjahromi A, Bidari-Zerehpooosh F. Periorbital granuloma annulare following mesotherapy. *Dermatol Ther*. 2020;33(6):8–9.
- Reddy HS, Khurana RN, Rao NA, Chopra V. Granuloma annulare anterior uveitis. *Ocul Immunol Inflamm*. 2008;16(1–2):55–7.
- Balighi K, Kamyab K, Azizpour A. Granuloma annulare after Botulinum toxin A injection: A rare association. *J Cosmet Dermatol*. 2020;19(10):2549–51.
- Van Kooij B, Canninga Van Dijk M, De Boer J, Sigurdsson V, Rothova A. Is granuloma annulare related to intermediate uveitis with retinal vasculitis? *Br J Ophthalmol*. 2003;87(6):763–6.
- O. Oz , U. Tursen , O. Yildirim, T.I. Kaya GI. Uveitis associated with granuloma annulare. *Eur J Ophthalmol*. 2003;13(1):93–5.

BÖLÜM 16

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HATIRLA

- Granüloma annulare (GA) sıklıkla çocuklarda ve genç yetişkinlerde görülür.
- GA'nın Amerika Birleşik Devletleri'nde yıllık insidans 0,04% olarak bildirilmiştir.
- Hastalık annüler dizilim gösteren küçük plakların oluşturduğu plak lezyonları ile karakterizedir.
- Lokalize, jeneralize (=dissemine) ve subkutan (=psödoromatoid nodül) GA formları mevcuttur.
- GA'yı jeneralize olarak adlandırmak için en az on adet lezon olması şarttır.
- Dördüncü form olan perforan GA çok nadir olarak izlenir.
- Kadınlarda erkeklerle oranla daha sık olarak ortaya çıkar.
- Lokalize formda ekstremité tutulumu, jeneralize formda ise gövde tutulumu ön plandadır.
- GA'nın kesin etyolojisi bilinmemektedir. Ancak diabetes mellitus, otoimmün hastalıklar, malignite, enfeksiyonlar ve dislipidemi ile ilişkili olabileceği bildirilmiştir.
- Hastalığın bazı ilaçlar ile de tetiklenebildiği bildirilmiştir. Amlodipin, levatiresetam, allopürinol, asetozolamid ve bazı TNF-a inhibitörleri (bu ilaçlar aynı zamanda GA tedavisinde de kullanılmaktadır) buna örnektir. Ayrıca bazı aşilar (pnömokok, kızamık-kızık-kabakulak) ile de GA tablosu ilişkilendirilmiştir.

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Göğüs Hastalıkları

- Granüloma annulare sarkoidoz ile ilişkili olabilir. Dispne ve/veya öksürük gibi semptomlarda veya şüphe durumunda hastalar sarkoidoz açısından incelenmelidir.

Göz Hastalıkları

- Granüloma annularenin göz tutulumu çok nadirdir ve literatürde sadece çok az sayıda üveit, retinal vaskülit ve keratit presipitat oluşumu vakaları bildirilmiştir. Semptom varlığında hastalar göz hastalıkları uzmanına danışılabilir.

KAYNAKLAR

- Joshi TP, Duvic M. Granuloma Annulare: An Updated Review of Epidemiology, Pathogenesis, and Treatment Options. *Am J Clin Dermatol* [Internet]. 2022;23(1):37–50. Available from: <https://doi.org/10.1007/s40257-021-00636-1>
- Wang J, Khachemoune A. Granuloma Annulare: A Focused Review of Therapeutic Options. *Am J Clin Dermatol* [Internet]. 2018;19(3):333–44. Available from: <https://doi.org/10.1007/s40257-017-0334-5>

BLUME-PEYTAVI U, ZOUBOULIS CC, JACOBI H, SCHOLZ A, BISSON S, ORFANOS CE. Successful outcome of cryosurgery in patients with granuloma annulare. *Br J Dermatol*. 1994;130(4):494–7.

Heymann WR. Granuloma annulare's triangular association with malignancy. *J Am Acad Dermatol* [Internet]. 2018;79(5):822–3. Available from: <https://doi.org/10.1016/j.jaad.2018.08.036>

Müller CSL, Vogt T. Granuloma annulare – is it a paraneoplastic condition for malignant lymphoma? *JDDG - J Ger Soc Dermatology*. 2021;19(6):803–12.

Keimig EL. Granuloma Annulare. *Dermatol Clin* [Internet]. 2015;33(3):315–29. Available from: <http://dx.doi.org/10.1016/j.det.2015.03.001>

Lukács J, Schliemann S, Elsner P. Treatment of generalized granuloma annulare - A systematic review. *J Eur Acad Dermatology Venereol*. 2015;29(8):1467–80.

Robati RM, Bahmanjahromi A, Bidari-Zerehpoush F. Periorbital granuloma annulare following mesotherapy. *Dermatol Ther*. 2020;33(6):8–9.

Reddy HS, Khurana RN, Rao NA, Chopra V. Granuloma annulare anterior uveitis. *Ocul Immunol Inflamm*. 2008;16(1–2):55–7.

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Van Kooij B, Canninga Van Dijk M, De Boer J, Sigurdsson V, Rothova A. Is granuloma annulare related to intermediate uveitis with retinal vasculitis? *Br J Ophthalmol*. 2003;87(6):763–6.

O. Oz , U. Tursen , O. Yildirim, T.I. Kaya GI. Uveitis associated with granuloma annulare. *Eur J Ophthalmol*. 2003;13(1):93–5.