A case report of granuloma faciale of the scalp arising in the setting of advanced androgenetic alopecia with a review of extrafacial granuloma faciale occurring on the scalp.

Authors:
Grace A. Alchemy, B.A., M.S., MS2 – Medical College of Wisconsin
Laura N. Westerling, MD – Department of Pathology, Kaiser Permanente, Northern California

Granuloma faciale (GF) is an uncommon dermatosis which rarely occurs on the scalp. Extrafacial GF most often occurs on the trunk or upper extremities and usually occurs along with facial involvement. While the etiology is unknown, actinic damage has been hypothesized to play a role. We report multiple plaques of GF on the scalp arising in the setting of advanced androgenetic alopecia without accompanying facial involvement. We also present a brief review of extrafacial GF arising on the scalp.

Practice Points:

- Granuloma faciale on the scalp most often occurs in the setting of androgenetic alopecia.
- In contrast to extrafacial granuloma faciale at other anatomic locations, granuloma faciale on the scalp is more likely to occur as multiple lesions and without facial involvement.

Introduction:

Granuloma Faciale (GF) is a rare benign inflammatory dermatosis most commonly found on the sun exposed skin of the face[1]. GF typically presents as a solitary well-defined reddish-brown to violaceous asymptomatic papule, nodule or a plaque showing follicular accentuation and telangiectasia. GF is usually seen in the second through seventh decade of life, with a predilection for middle-age Caucasian males.[2] Extrafacial GF usually occurs on the extremities or trunk and most often occurs in patients who also have facial involvement.[3] We report a case of a 66-year-old male with advanced androgenetic alopecia and multiple lesions of GF on the scalp without facial involvement. We also present a brief review of extrafacial GF arising on the scalp.

Case Report:

A 66-year-old male presents with a 7 year history of multiple, asymptomatic plaques on the vertex and frontal scalp (Figure 1). Clinical exam reveals multiple erythematous and telangiectatic annular plaques on the scalp along with advanced androgenetic alopecia (Figure 1). A skin biopsy was performed on the two of the scalp lesions which showed dermal fibrosis with acute and chronic perivascular inflammation that includes neutrophils, plasma cells and eosinophils (Figure 2). A small vessel vasculitis was present (Figure 2). There were accompanying histologic findings of end stage androgenetic alopecia and solar elastosis was present.

Based on these clinical and histopathological findings, GF was diagnosed.

The patient was treated with hydroxychloroquine (Plaquenil, 200 mg tablets orally twice daily) and after 2 months of treatment reports some lightening in the appearance of the lesions without complete resolution.

Discussion:

GF is an uncommon dermatologic condition. The usual presentation is as an isolated facial lesion on the forehead, nose, or cheeks with a predilection for middle aged, Caucasian males.[4,5] GF is often clinically misdiagnosed as sarcoidosis, lupus, lymphoma, or basal cell carcinoma.[5] The disease course is usually chronic and lesions only rarely occur extrafacially.[6] As previously reported in the literature, a study of 66 patients with GF showed only 5 patients presenting with extrafacial lesions.[5] Extrafacial GF is most commonly reported on the upper extremities and trunk.[3] In a study of 32 cases of extrafacial GF, only 25% occurred on the scalp.[3] The etiology of GF is unknown, however, as it usually occurs on sun exposed skin and may be exacerbated by sun exposure or trauma.[7,8] The possibility of a localized immune complex disease or allergic hypersensitivity have also been theorized.[9]

A PUBMED search was performed and to our knowledge, 17 cases of extrafacial GF have been reported on the scalp. Of these, 88% occurred in men (see Table 1) with ages ranging from 43-87 years. As GF usually occurs on sun exposed skin, it is not surprising that most individuals with scalp involvement also have advanced androgenetic alopecia. In cases where confirmatory clinical or photographic evidence was available, 100% of patients with GF on the scalp exhibit findings of androgenetic alopecia. Only two females have been reported to have GF of the scalp and it was not reported whether either of them had androgenetic alopecia. Our review also shows that while GF is typically solitary, on the scalp 81.8% of patients who we had confirmation of whether single or multiple lesions were present exhibited multiple lesions (Table 1). Additionally, in the case series of extrafacial GF at all anatomic sites complied by Deen et al, cases of extrafacial GF which were not on the scalp occurred without facial lesions 24% of the time[3]. In contrast, in our series of GF on the scalp, lesions occurred without facial lesions 52.9% of the time[3].

The characteristic histopathologic features of GF include a Grenz zone, telangiectasia, dermal fibrosis, and mixed inflammation that includes neutrophils, plasma cells and eosinophils.[5] Histopathologically, GF appears similar to erythema elevatum diutinum (EED) and both are chronic fibrosing vasculitides characterized by a Grenz zone and patterned fibrosis. A predominance of eosinophil infiltrate and lack of granulomatous nodules favors a diagnosis of GF over EED as well as their distinguishing clinical presentations.[17]

There is no standard of care for GF and GF is frequently unresponsive to therapy.[18] Multiple management approaches have been reported, inducing topical corticosteroids or tacrolimus, intralesional corticosteroids, dapsone, hydroxychloroquine, and physical interventions such as laser-therapy, surgery, or cryotherapy with varying results.[18-20]

We present this case of GF on the scalp and review of GF on the scalp to raise to awareness that GF on the scalp most often occurs in the setting of androgenetic alopecia. Additionally, in contrast to extrafacial GF in other locations, scalp GF typically manifests as multiple lesions and most often occurs without facial lesions.

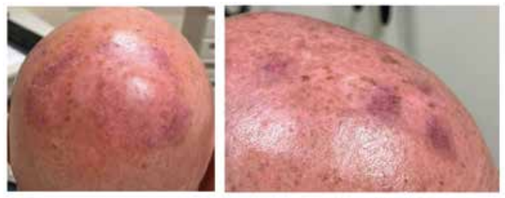

FIGURE 1. A and B) Multiple annular erythematous plaques on the vertex and occipital scalp which is also affected by advanced androgenetic alopecia.

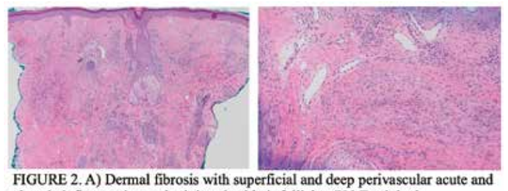

FIGURE 2. A) Dermal fibrosis with superficial and deep perivascular acute and chronic inflammation and miniaturized hair follicles (H&E original magnification x5). B) Telangiectatic blood vessels, dermal fibrosis and small vessel vasculitis (H&E original magnification x 10).

Number	Author	Age	Sex	Multiple scalp lesions present	Facial involvment	AGA present
1	Frost and Heenen	64	M	Yes	Yes	Yes
2	Kavangh et al. (1996)[10]	62	M	Yes	No	Yes
3	Marcoval et al (2004)[11]	68	M	Not Reported	Yes	Not Reported
4		58	F	No	Yes	Not Reported
5	Ortonne et al.	61	M	Not Reported	No	Not Reported
6		43	M	Not Reported	Yes	Not Reported
7	Sewell and Elston[12]	54	M	Yes	No	Yes
8	Leite et Al. (2011)	78	M	Yes	No	Yes
9	Mookadam et al. (2017)[13]	61	M	Yes	Yes	Not Reported
10		60	M	Not Reported	Yes	Not Reported
11		75	F	Not Reported	Yes	Not Reported
12	Loi et al. (2021)[14]	76	M	No	No	Yes
13	Savoia et al. (2024)[15]	68	M	Yes	No	Yes
14		82	M	Yes	No	Not Reported
15		58	M	Yes	Yes	Not Reported
16	Finnegan et al (2024)[16]	87	M	No	No	Yes
17	Westerling & Alchemy (2025)	66	M	Yes	No	Yes

TABLE 1. Reported cases of extrafacial Granuloma Faciale on the scalp.

Works Cited:

1. Thiyanaratnam J, Doherty SD, Krishnan B, Hsu S. Granuloma faciale: Case report and review. Dermatol Online J. 2009;15(12). doi:10.5070/D3558488902
2. Rossiello L, Palla M, Aiello FS, Baroni A, Satriano RA. Granuloma Faciale With Extrafacial Lesions. Ski Dermatol Clin. 2007;6(3):150-151. doi:10.1111/j.1540- 9740.2007.05809.x
3. Deen J, Moloney TP, Muir J. Extrafacial Granuloma Faciale: A Case Report and Brief Review. Case Rep Dermatol. 2017;9(2):79-85. doi:10.1159/000477960
4. Al Dhafiri M, Kaliyadan F. Granuloma Faciale. In: StatPearls. StatPearls Publishing; 2024. Accessed November 8, 2024. http://www.ncbi.nlm.nih.gov/books/NBK539832/
5. Ortonne N, Wechsler J, Bagot M, Grosshans E, Cribier B. Granuloma faciale: A clinicopathologic study of 66 patients. J Am Acad Dermatol. 2005;53(6):1002-1009. doi:10.1016/j.jaad.2005.08.021
6. PEDACE FJ, PERRY HO. Granuloma Faciale: A Clinical and Histopathologic Review. Arch Dermatol. 1966;94(4):387-395. doi:10.1001/archderm.1966.01600280005001
7. Frost FA, Heenan PJ. Facial Granuloma. Australas J Dermatol. 1984;25(3):121-124. doi:10.1111/j.1440-0960.1984.tb00828.x
8. Burgdorf WHC. Granuloma Faciale. In: Freedberg IM, Eisen AZ, Wolff K, Austen KF, Goldsmith LA, Katz SI, Fitzpatrick TB, Editors. Fitzpatrick's Dermatology in General Medicine. 5th Ed. New York: McGraw-Hill; 1999. p. 1138-40.
9. Barnadas MA, Curell R, Alomar A. Direct immunofluorescence in granuloma faciale: a case report and review of literature. J Cutan Pathol. 2006;33(7):508-511. doi:10.1111/j.1600-0560.2006.00451.x
10. Kavanagh GM, McLaren KM, Hunter JA. Extensive extrafacial granuloma faciale of the scalp. Br J Dermatol. 1996;134:595-596.
11. Marcoval J, Moreno A, Peyri J. Granuloma faciale: a clinicopathological study of 11 cases. J Am Acad Dermatol. 2004;51:269-273.
12. Sewell L, Elston D. Extrafacial granuloma faciale successfully treated with 595-nm pulse dye laser. J Am Acad Dermatol. 2008;58(suppl 2).
13. Mookadam M, Mesinkovska N, Bridges AG. Evaluating the clinical and demographic features of extrafacial granuloma faciale. Cutis. 2017 Jul;100(1).
14. Loi C, Abbenante D, Misciali C, Savoia F. Extrafacial granuloma faciale presenting as an annular plaque of the scalp. Int J Dermatol. 2022 Apr;61(4):e144-e146.
15. Savoia F, Medri M, Stanganelli I, et al. Elongated linear vessels simulating branching vessels and diffuse structureless orange areas as prominent dermoscopic features of diffuse flat facial and extrafacial granuloma facials: A case series. Australas J Dermatol. 2024 Aug;65(5):467-471. doi:10.1111/ajd.14298. Epub 2024 May 5.
16. Finnegan P, O'Connor C, Mhaolcatha SN, et al. A case series of extrafacial granuloma faciale. Indian J Dermatol. 2024 Mar-Apr;69(2):203.
17. Ziemer M, Koehler MJ, Weyers W. Erythema elevatum diutinum -- a chronic leukocytoclastic vasculitis microscopically indistinguishable from granuloma faciale? J Cutan Pathol. 2011;38(11):876-883. doi:10.1111/j.1600-0560.2011.01760.x
18. Lindhaus C, Elsner P. Granuloma Faciale Treatment: A Systematic Review. Acta Derm Venereol. 2018;98(1):14-18. doi:10.2340/00015555-2784
19. Leite I, Moreira A, Guedes R, Furtado A, Ferreira EO, Baptista A. Granuloma faciale of the scalp. Dermatol Online J. 2011;17(4). doi:10.5070/D35f93j33t
20. Liu L, He Y, Chang J. A Case of Granuloma Faciale Successfully Treated with Minocycline. Clin Cosmet Investig Dermatol. 2023;16:2337-2339. doi:10.2147/CCID.S425239