



Author's Reply to Letter to the Editor "Subcutaneous Granuloma Annulare in an Atypical Age Group in Immediate Post-Covid-19 Phase"

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Citation: Kaur L, Dayal S. Author's Reply to Letter to the Editor "Subcutaneous Granuloma Annulare in an Atypical Age Group in Immediate Post-Covid-19 Phase". *Dermatol Pract Concept.* 2023;13(2):e2023173. DOI: <https://doi.org/10.5826/dpc.1302a173>

Accepted: March 30, 2023; **Published:** April 2023

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Funding: None.

Competing Interests: None.

Authorship: All authors have contributed significantly to this publication.

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Dear Editor,

We appreciate the commenter's interest shown for our article [1]. We agree that generalized granuloma annulare (GGA) affects at least the trunk and either upper and/or lower extremities as first described by Dabski and Winkelmann who studied 100 cases of GGA. However, it is important to note that the lesional morphology was either annular plaques in ring-like configuration or non-annular papules in their study [2]. GGA clinically presents as widespread macules or papules or annular plaques on the trunk and limbs unlike our case which had a single type of clinical morphology of painless subcutaneous nodules [3,4].

Subcutaneous granuloma annulare (SGA) usually presents as skin-colored subcutaneous nodules with minimal to absent cutaneous surface changes. A slight erythema in very few lesions (3 out of 23 nodules) in our case was seen, similar to the faint erythema noticeable in the clinical photograph of

SGA in the article cited by the commenters themselves and previously observed in other studies too[4,5].

Regarding the issue raised on mobility of nodules reported in our case, we would like to bring reader's attention to the study on 47 pediatric SGA cases [5]. Among 53 total subcutaneous nodules, 25 were in fact freely mobile, while 23 were not or slightly mobile. Immobility or fixity occurs more commonly when SGA extends and attaches to underlying periosteum as in the cases of lesions over scalp and forehead [5].

Interpreting our case as GGA rather than SGA may have been caused by the erythematous lesion pointed with red arrow labelled as 'biopsy site' instead of 'attempted biopsy site' (indicating post-surgical wound after suture removal), which might be misinterpreted as an annular plaque of GGA.

SGA is usually an authentic and exclusive panniculitic process with no dermal involvement, however, 25% cases may have coexistent findings of granuloma annulare in the

dermis [6]. Histopathologically, SGA should have areas of basophilic degeneration of collagen bundles with peripheral palisading granulomas involving connective tissue septae of the subcutis [6]. The histopathology in our case revealed necrobiotic granulomas exclusively involving subcutaneous septae while in GGA upper and middle dermis shows predominant participation [6]. As our case presented very early, within 7 days from onset, the biopsied nodule might be purely subcutaneous without upper dermal participation yet, causing relatively smaller granulomas on histopathology.

Although imaging alone may be preferred in children being non-invasive, its utility as substitute for biopsy in adults needs to be confirmed with further imaging studies in adult SGA. We emphasize that SGA does not occur exclusively in children but can be observed in adults as well, although it is rare and may follow a different disease course in comparison to the children one.

Further contemplating, our case might fit into a generalized form of SGA, as generalized form of perforating GA [3]. In conclusions, since the primary and the only lesions in our case were subcutaneous nodules, the term GGA as diagnosis of our case should be discouraged.

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