

# A CASE OF CHILDHOOD TYPE 1 DIABETES MELLITUS WHO DEVELOPED GRANULOMA ANNULARE

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## Introduction and Aim

Granuloma Annulare (GA) is a granulomatous dermatitis of unknown etiology with numerous associations, consisting of a single or multiple small lesions (of nodular or papular shape) with annular configuration, usually localized on dorsal surfaces of the feet or hands and over other bony prominences; it is clinically painless and not pruriginous. Granuloma annulare (GA) has rarely been reported in childhood, and its association with type 1 diabetes mellitus (T1DM) and other chronic systemic diseases such as autoimmune thyroiditis or rheumatoid arthritis has been reported. We present this report because of the very rare existence of T1DM together with GA.

## Case

A 8 years and 9 months old girl who is followed for 1.5 years with the diagnose of T1DM and receiving analogue insulin treatment complained of skin eruption in ankles. Eruptions were first noticed during initial DM diagnose and repeated every hyperglisemia periods. Physical examination was normal, except erythematous annular lesion with atrophic focal areas replacing in left foot dorsum and ankle and erythematous lesion replacing in lateral of right lateral malleo (Fig. 1). HbA1c was 7.9%, anti-nuclear antibody was positive. Hystopathological examination of biopsy from lesion revealed normal epidermis, increased mucin accumulation and nekrobiosis areas with significant borders and surrounding histiocytic infiltration in mid and deep dermis (Fig. 2). These findings were diagnosed as granuloma annulare.



Fig. 1. (A) Erythematous plaque with atrophic foci in the foot dorsum (B) Well-demarcated erythematous plaque on the ankle

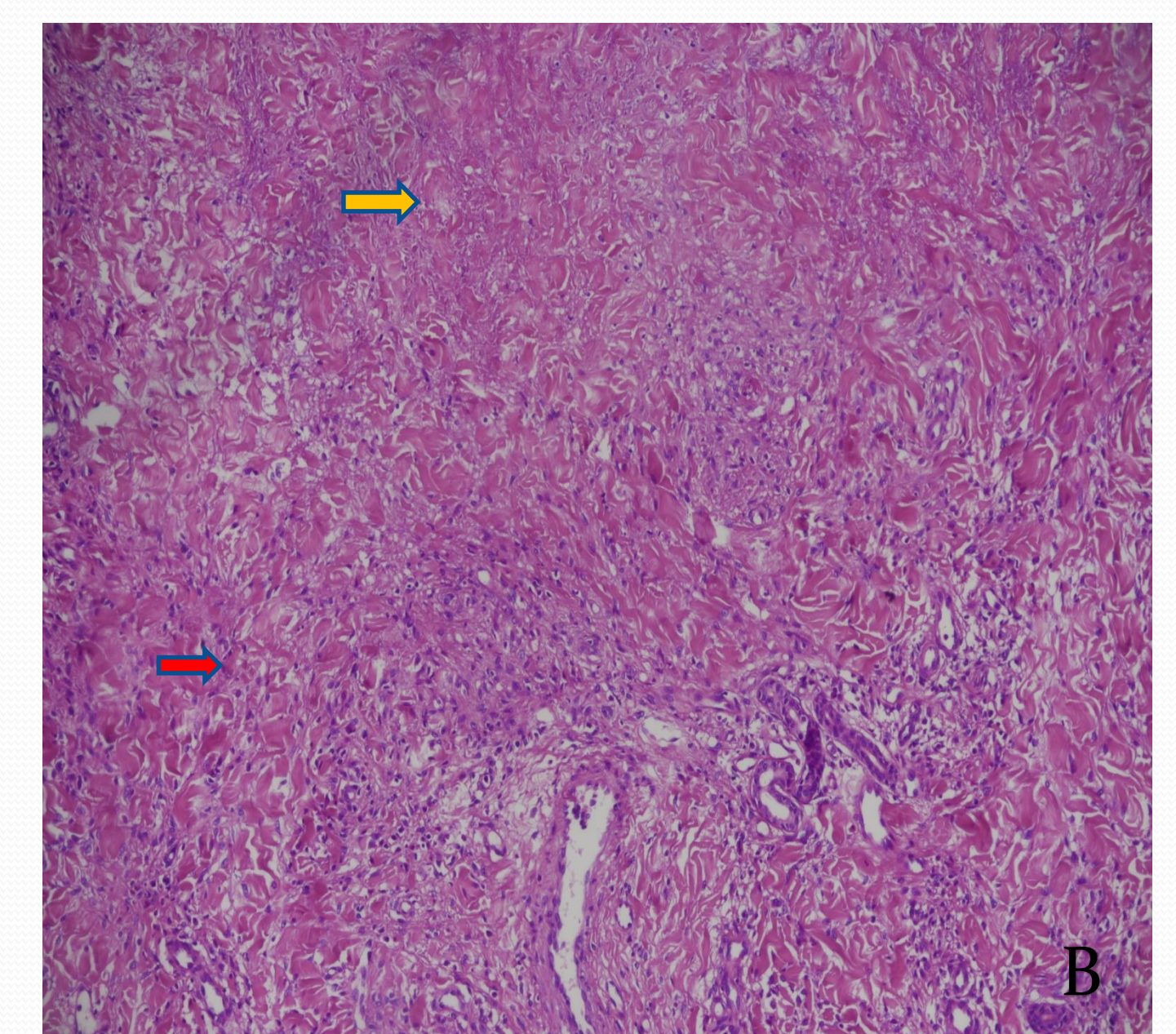
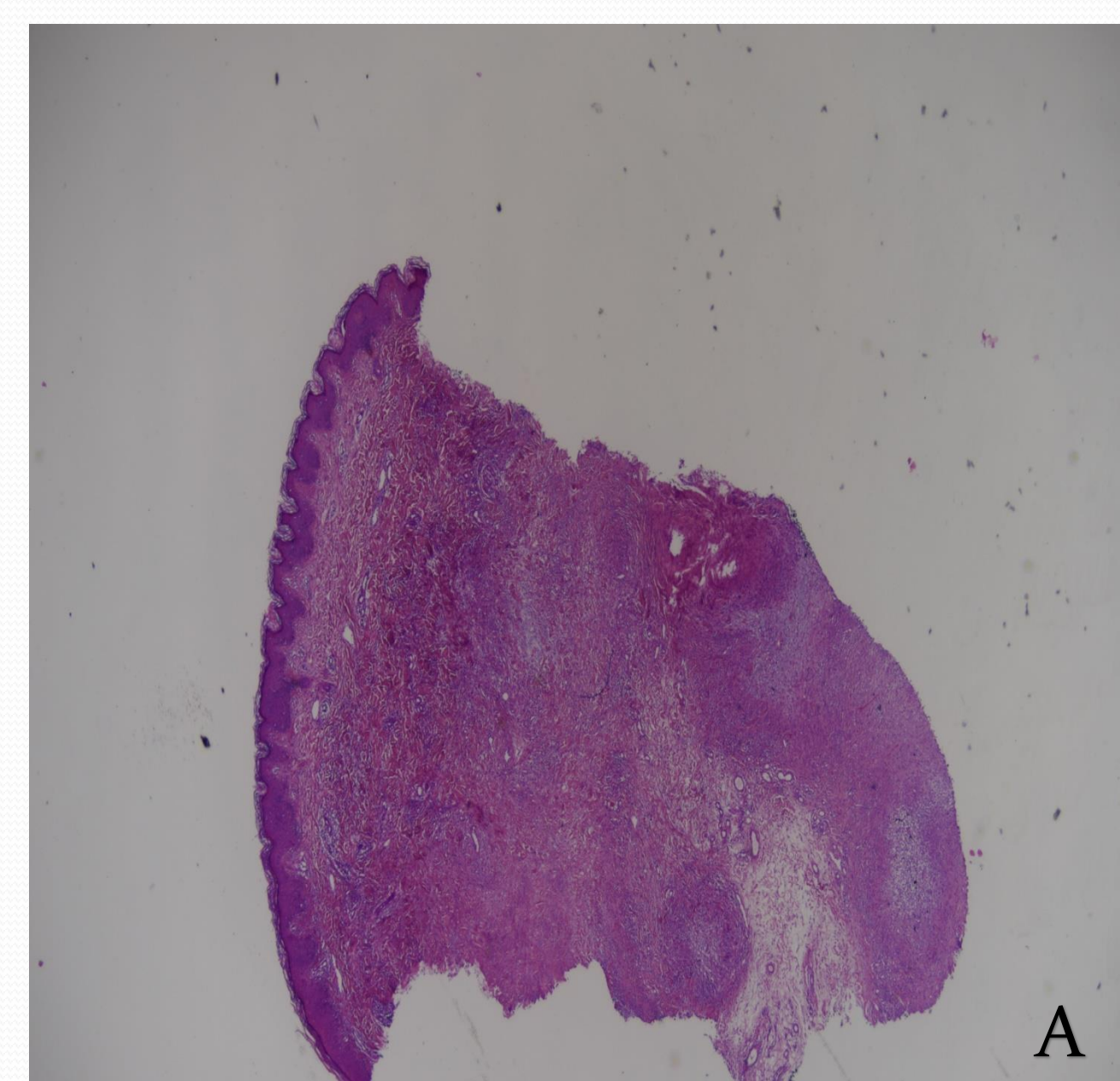


Fig. 2. (A) Specimens of necrobiosis at the border of the middle and deep dermis in the sections (H.E.X20). (B) Necrobiosis foci in the dermis layer (yellow arrow), increased mucin accumulation and histiocytic infiltration (red arrow) (H.E.X100).

## Conclusion

The relationship of GA to T1DM is controversial. Prolonged exposure to high glucose levels could contribute to expression of this skin manifestation. Although a clear mechanism remains still unknown, clinicians must take into consideration an association of GA in patients with T1DM to avoid unnecessary medical investigations and/or inadequate pharmacological treatment.

## Reference

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