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GRANULOSIS RUBRA NASI BEYOND CHILDHOOD: AN UNUSUAL CASE OF ADULT PERSISTENCE TREATED WITH TACROLIMUS

Dermatology

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ABSTRACT

Granulosis rubra nasi (GRN), is a rare, benign, chronic inflammatory condition of the eccrine sweat glands, predominantly affecting the central face during childhood. [1] It typically resolves at puberty ; however , persistence into childhood is rare. We report a case of 40 – year – old female resenting with persistent reddish vesicles over the face, which showed a significant response to topical tacrolimus , this case emphasizes the unusual adult persistence of the condition and explores tacrolimus as a powerful treatment option.

KEYWORDS

Granulosis rubra nasi, eccrine sweat glands, face, hyperhidrosis, tacrolimus.

INTRODUCTION

Granulosis rubra nasi is an uncommon inflammatory disorder of eccrine sweat glands localized predominantly to the central face. Clinically, it presents with erythema , hyperhidrosis, papules, vesicles, and pustules. First described by Jadassohn in 1901, Granulosis rubra nasi most commonly affects children between 7 to12 years of age and resolves spontaneously during puberty. [2] In rare cases, it may persist or recur in adulthood , presenting diagnostic and therapeutic challenges. The pathogenesis of Granulosis rubra nasi remains unclear, though hyperhidrosis is believed to be a contributing factor.[3] Familial cases a possible autosomal dominant inheritance. Here, we present a rare case of Granulosis rubra nasi presenting into adulthood and exhibiting a favourable response to tacrolimus, a calcineurin inhibitor.

Case Report

A 40 – year-old female , presented with history of multiple red raised lesions over the nose since the past 10 years which had seasonal exacerbation , accounting for aggravation during summer. She reported history of increased sweating associated with erythema of the face since childhood , which was progressively followed by appearance of raised lesions of the nose. These lesions were non – pruritic , non – tender, and healed without scaring though new lesions continue to emerge. The condition implied improvement in cold weather but has never showed complete resolution. Over time, these lesions evolved into fluid filled lesions that expressed clear fluid upon excoriation. There were no history of any systemic symptoms, drug intake, or cosmetic use.

On examination, multiple tense vesicles and skin - coloured papules on an erythematous base noted over the nose, forehead and few scattered vesicles noted over the cheeks. (FIGURE 1A) Most vesicles expressed serosanguinous fluid.

Diascopy led to temporary disappearance of the lesions, which reappeared upon release of pressure. (FIGURE 1B) The rest of the mucocutaneous and systemic examination was unremarkable.

Multiple treatments have been attempted previously, including antibiotics, antifungals, anti – acne agents, and topical steroids , without any lasting benefit.

Differential diagnosis considered includes Hidrocystoma, Papulopustular rosacea, periorificial dermatitis, miliaria crystalina, acne vulgaris.

Histopathology revealed , mononuclear cell infiltration in the upper dermis, peri-eccrine inflammation, dilated superficial capillaries and lymphatics , which are consistent with Granulosis rubra nasi.

The patient was counselled about the chronic and benign nature of Granulosis rubra nasi. A trial of topical atropine 1% cream (morning) and topical tacrolimus 0.003% (night) was initiated. After 3 weeks , the vesicles were considerably reduced in size. Due to potential ocular side effects, atropine the stopped and tacrolimus was continued. At 3 months follow up , the patient was nearly lesion – free yet mild erythema and telangiectasia persisted.

DISCUSSION

Granulosis rubra nasi, is a rare condition predominantly seen in children. Adult persistence is highly unusual. The condition is believed to be inherited in an autosomal dominant pattern, with familial case reported. The pathogenesis remains unclear but may involve local autonomic dysfunction and eccrine gland hyperactivity. [4]

Clinical features often begin with hyperhidrosis localised to the central face , followed by the development of erythema and papulovesicular lesions. Lesions typically disappear on diascopy and reappear upon pressure release. Disease progression is chronic, and spontaneous resolution is usually seen by puberty.

In adults, Granulosis rubra nasi, be misdiagnosed as rosacea or hidrocystoma. Rosacea features flushing, pustules, and vascular instability but lacks hyperhidrosis. Hidrocystoma are periorbital cystic lesions, unlike the central facial distribution in Granulosis rubra nasi. Histopathological examination aids differentiation.

Histologically, Granulosis rubra nasi shows perivascular and peri – eccrine lymphocytic infiltrates with dilated dermal vessels and sweat ducts. In the absence of granulomas or epithelial changes rules out other granulomatous or inflammatory conditions.[5]

Our case highlights the late- stage presentation where vesicle formation was prominent. We propose that persistent inflammation around sweat ducts may impair their function, leading to reduced sweating and vesicle formation.

Treatment options for Granulosis rubra nasi are limited, with many patients managed conservatively . botulinum toxin has shown promise in some cases by reducing the eccrine activity. Topical steroids have limited efficacy and potential side effects with prolonged use

In this case, topical tacrolimus led to marked improvement. Tacrolimus, a calcineurin inhibitor, exerts an inflammatory effect by inhibiting T cells activation and cytokine release. this suggests that inflammation plays a key role in the pathogenesis of Granulosis rubra nasi, even in later stages.

CONCLUSION

Granulosis rubra nasi is a under recognised inflammatory disorder of eccrine sweat glands that typically affects children. Adult persistence is rare and can pose diagnostic challenges. The current case emphasises the importance of considering Granulosis rubra nasi in adults presenting with vesiculo-papular facial lesions and hyperhidrosis. Topical Tacrolimus may offer a safe and effective treatment option, especially in later stages of the disease where conventional therapies fail.

Conflicts Of Interest – Nil
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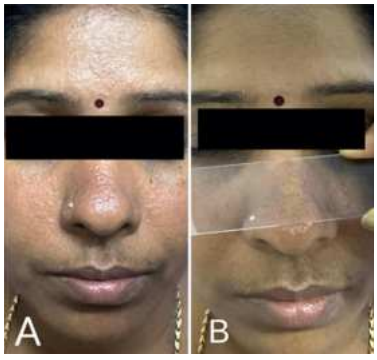

Figure 1 :

Legends To The Figure :

A - Multiple Tense Vesicles And Skin - coloured papules on an erythematous base noted over the nose, forehead and few scattered vesicles noted over the cheeks.

B - Diascopy showing blanching and temporary disappearance of the lesions over the nose.

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