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Case Report

Non-Healing Lesions in a Patient with Chronic Plaque Psoriasis

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Abstract

Pyogenic granuloma is a bright red benign lesion which can result in bleeding and discomfort. The aetiology is unclear, however drugs, trauma and pathogens are some causes linked to their formation. We describe a case of a 92-year-old female who presented with a rapidly growing nodule on her right second toe with no history of trauma. She had previously been prescribed the retinoid acitretin for plaque psoriasis. After excision of the first lesion the patient presented with another lesion, this time on her left heel. Her lesions resolved on cessation of acitretin therapy. Histological analysis provided a diagnosis of acitretin induced pyogenic granuloma. It is well documented that pyogenic granulomas are rare side effects in acne and psoriasis patients who take retinoid treatment. Paradoxically, retinoids inhibit the formation of vascular endothelial growth factor and would be expected to inhibit rather than stimulate the formation of pyogenic granulomas. It is possible that retinoids favour trauma or share a proangiogenic target; retinoids decrease attachments between keratinocytes and cause nail brittleness. Resolution can occur spontaneously or on cessation of the drug.

Introduction

Pyogenic granuloma is a common vascular tumour, however its association with acitretin is rare with A Pubmed search for "acitretin and "pyogenic granuloma" yielding only two relevant results. A manuscript by Amin et al. report only 30 recorded cases in the literature [1]. The association between pyogenic granuloma is well documented with reports of other retinoids such as isotretinoin implicated in its pathogenesis [2]. A 92 year old woman presented with a 3 week history of a rapidly growing nodule on the right second toe with no clear history of trauma (Figure 1). She had a past history of chronic plaque psoriasis which was managed on 10 mg of acitretin for several years, and had several head and neck squamous cell carcinomas excised. There were no liver or lipid abnormality whilst on treatment.

Physical examination revealed a friable painful nodule which was later excised. Two months later she presented with a painful left heel and was unable to weight bear (Figure 2). Physical examination revealed non-healing erosion with granulation tissue and associated oedema. A second biopsy was taken showing similar findings.

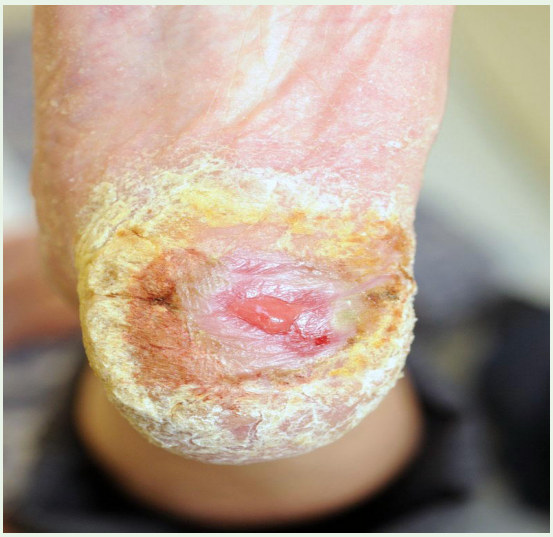

Figure 1: Patient's left heel demonstrating a non healing erosion with oedema and granulation tissue.

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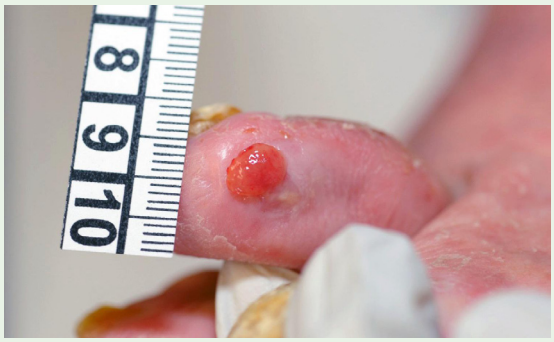
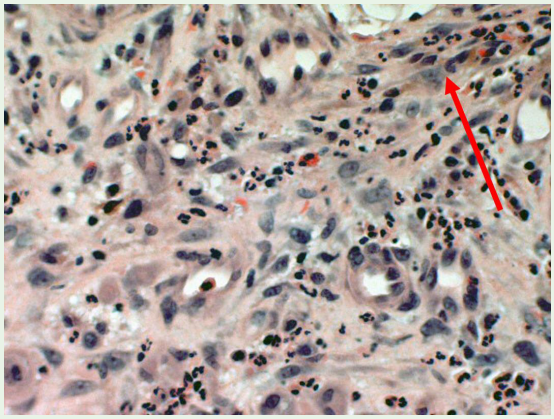


Figure 2: Red rapidly growing nodule on the patients right second toe measuring 7 mm in diameter.



Figures 3: Haematoxylin and eosin stained with 10x magnification showing mixed inflammatory cell infiltrate (arrow) scattered within granulation tissue.

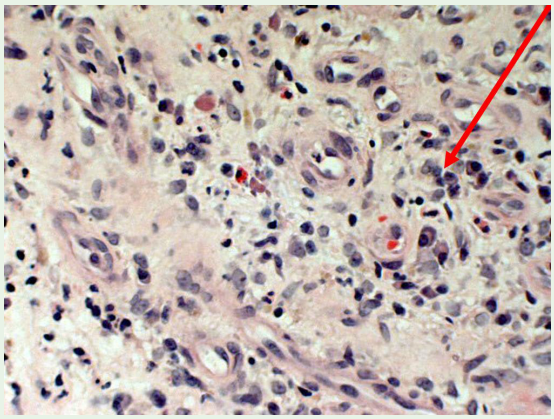


Figure 4: Further inflammatory cell infiltrate (arrow) scattered within the granulation tissue stained with haematoxylin and eosin stained with 10x magnification.

Histopathological Findings

Histological examination showed a polpoid exophytic nodule with ulceration and a lobular arrangement of capillaries. There was a mixed inflammatory cell infiltrate with neutrophils and plasma cells scattered in the granulation tissue with occasional eosinophils (Figures 3 and 4).

Diagnosis

Acitretin induced pyogenic granuloma/granulation tissue.

Discussion

Topical steroids and lowering the drug dose was initially trialled on the skin lesions but to no avail. The pyogenic granulomas resolved on stopping the acitretin.

The term pyogenic granuloma was first described in 1897 by Poncet and Dor as a nonspecific granulation in response to a pyogenic agent. All races are equally affected, however it is most common in children and young adults**.** It has been well known that pyogenic granulomas are an uncommon reported side-effect of systemic retinoids such as isotretinoin and etretinate in patients with acne or psoriasis [3,4]. Further reports have shown that pyogenic granulomas may also appear on the site of application of topical retinoids-tretinoin and tazarotene [5,6].

Retinoids decrease vascular endothelial growth factor at a transcriptional level and therefore should inhibit rather than stimulate the formation of pyogenic granuloma. It is conceivable that retinoids share a proangiogenic target or alternatively that they somehow favour some form of trauma resulting in formation of pyogenic granulomas. In general, retinoids are known to decrease the attachments between keratinocytes and cause nail brittleness that allows for fragment penetration between the nail bed and adjacent tissue [7]. The excess granulation tissue reported with retinoids usually appears after 3 to 12 weeks of therapy, but there are reports in which the reaction appeared 6 months after beginning therapy, and even after the withdrawal of the drug [8].

The reaction may resolve spontaneously after the discontinuation of therapy or after reduction of the dose, suggesting that the reaction is a dose-dependent effect. In cases precipitated through trauma, removal of the stimulus can lead to resolution. Tapered doses of oral prednisolone over a 2 to 3 week period and clobetasol propionate have been found in the literature have been found to successfully manage pyogenic granulomas [9,10].

Conclusion

Pyogenic granulomas are a rare side effect of systemic and topical retinoids. It should be noted that there can be a long delay between the initiation of retinoid treatment and the development of pyogenic granulomas. Treatment is rarely indicated as cessation of the offending drug or stimulus usually results in resolution.

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