Pyogenic Granuloma of the Penis: An Uncommon Lesion with Unusual Presentation

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Abstract
We present the case of a 37-year-old man who presented with a penile lesion that engorged on erection. Ultrasound examination demonstrated vascularity of the lesion and the decision was made to perform a complete excision. Histological analysis confirmed the diagnosis of a pyogenic granuloma of the penis. Follow-up demonstrated no recurrence at 3 months.

Introduction
Pyogenic granulomas are not uncommon. They most typically occur on exposed skin surfaces such as the hands and face but have rarely been reported on the penis.

We present a case of a 37-year-old man with an unusual presentation of a penile pyogenic granuloma.

To our knowledge, this unusual presentation has not previously been documented in the literature.
Pyogenic Granuloma of the Penis

Discussion

Pyogenic granulomas are common, acquired, benign vascular proliferations which may occur anywhere on the skin or mucosa, or even intravascularly, at any age [1]. Typically they are solitary, smooth, bright red, rapidly growing papular or polypoid lesions that often ulcerate and bleed, causing patients to seek treatment [1]. Their histological appearance is of lobules of small capillaries set in a fibromyxoid matrix, often distinctly exophytic and bound by hyperplastic epithelium [2].

The etiology is not fully understood. It is now widely regarded that pyogenic granulomas have a reactive rather than a neoplastic or infective aetiology [3]. There is also an established link between skin injury and development of pyogenic granulomas [4]. It is therefore surprising that genital granulomas are not seen more frequently, as micro-trauma from coitus is fairly common [5].

Of the 9 cases of penile pyogenic granulomas reported in the literature, including the present case, 4 were seen in circumcised individuals with prior history of phimosis. Various treatment options for pyogenic granulomas are available. These include surgical excision, electrodissection, cryotherapy, laser ablation and micro-embolization. Additionally, when the lesion is found in conjugation with phimosis consideration should be given for circumcision.

A retrospective study of 408 cases concluded complete surgical resection as the treatment of choice [1]. Not only does this method reduce the risk of further recurrence, it also provides a specimen for histopathological analysis to confirm the diagnosis. Where cases of recurrence were reported in the study, globules of small vessels dispersed between collagen bundles in the deeper dermis were seen on histological examination. However in the majority of patients, as in our case, complete healing was noted.

Fig. 1. Histological analysis of the lesion. (A) Low power: An umbilicated nodule overlaid by normal epidermis composed of lobular proliferation of thin-walled vessels, some are collapsed. (B) Medium power: A closer view of the lesional vessels. (C) High power: The small vessels are lined by bland endothelial cells with no evidence of atypia or mitosis embedded in fibrotic stroma with mixed inflammation. (D) HHV-8 by IHC is negative.
Only 8 cases of penile pyogenic granulomas have so far been documented in the literature (table 1). Whilst the exact size of the lesion was recorded in the majority of cases, none documented an increase in size on erection, as was the atypical presentation of this case. In all instances, the clinician would likely have examined the penis in a non-erect state and would rely on a patient’s history with regards to erectile changes. This may not have been forthcoming especially as 2 of the 8 cases were reported in pre-pubescent patients.

Enlargement of the lesion during erection could perhaps be used as a diagnostic feature for pyogenic granulomas of the penis. However, the small number of documented cases in the literature makes it difficult to determine an association. As highlighted in another case [10] there is a significant possibility that many cases of genital pyogenic granulomas may be misdiagnosed as genital warts. In such instances, these lesions would generally treated with cryotherapy, leaving the diagnosis unconfirmed.

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