



Case Study of the Month

Prostatic Infarction Involving the Urinary Sphincter, an Association with Pyoderma Gangrenosum

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Abstract

A 70-year-old man presented with haematuria and restrictive urinary symptoms 7 years after a transurethral prostatectomy (TURP). Onset of symptoms coincided with development of a large skin ulcer on his back. A diagnosis of pyoderma gangrenosum was made based on clinical signs and histopathology. On repeated cystoscopy the urethral sphincter was obliterated by necrotic tissue, suspicious for malignancy. Histopathology revealed only necrotic tissue consistent with infarction of the prostate and sphincter. This clinical presentation with infarction of the prostate and sphincter, concurrent with development of skin ulcers, was consistent with pyoderma gangrenosum affecting the prostatic urothelium and sphincter. Previous prostatic surgery may have predisposed our patient to development of pyoderma gangrenosum in the area of the prostate.

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1. Case report

A 70 year-old man who had undergone transurethral prostatectomy (TURP) 7 years previously presented with frank haematuria, worsening urinary flow, and urinary urgency. Onset of haematuria coincided with development of a rapidly growing ulcer on his upper back highly suggestive of squamous carcinoma (Fig. 1). This was excised and a split-thickness skin graft was applied. Histopathology showed chronic granulomatous inflammatory infiltrate with

no evidence of malignancy. Dermatologic advice was sought a few weeks later when new ulcers occurred at the edge of the graft (Fig. 2) A clinical diagnosis of pyoderma gangrenosum was made. The patient was otherwise symptom free and extensive investigations revealed no associated disease. The ulcers initially responded well to introduction of systemic steroids and azathioprine.

Investigation of the haematuria included imaging of the upper renal tract, which was normal. At flexible cystoscopy it was impossible to pass the



Fig. 1 – Rapidly growing ulcerative skin lesion of 8 × 10 cm on the upper back.

urethral sphincter, which was completely distorted and abnormal in appearance. Rectal examination revealed a benign-feeling prostatic remnant and the prostate-specific antigen (PSA) level was 1.6 (g/l) (0–4.0 μg/l).

Examination under anaesthetic prior to the procedure revealed a flat prostate with an abnormal-feeling apex, suspicious for malignant infiltration. At cystoscopy the urethral sphincter appeared grossly distorted with narrowing and necrosis. The prostatic urethra was obliterated by necrotic white tissue that destroyed anatomic landmarks, including the veru. Resection of a small amount of tissue from the bladder neck was performed to obtain tissue for histopathology and to create a channel.

In view of the unusual appearance and the suspicion of malignancy, magnetic resonance imaging (MRI) of the pelvis was performed. This showed abnormal prostatic tissue but no signs of extracapsular or nodal abnormalities (Fig. 3). Histology revealed only necrotic tissue consistent with



Fig. 2 – Recurrent ulceration several weeks after a split-thickness skin graft was applied.



Fig. 3 – Magnetic resonance image of the pelvis shows a transurethral prostatectomy defect surrounded by fibrotic tissue. There are no signs of extracapsular disease or enlarged lymph nodes.

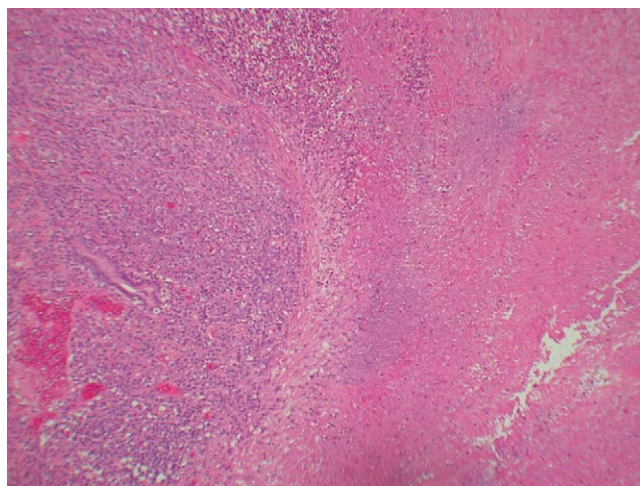


Fig. 4 – Section shows prostatic infarction with necrotic tissue. Granulation tissue and fibroblastic response are seen but there is no evidence of malignancy.

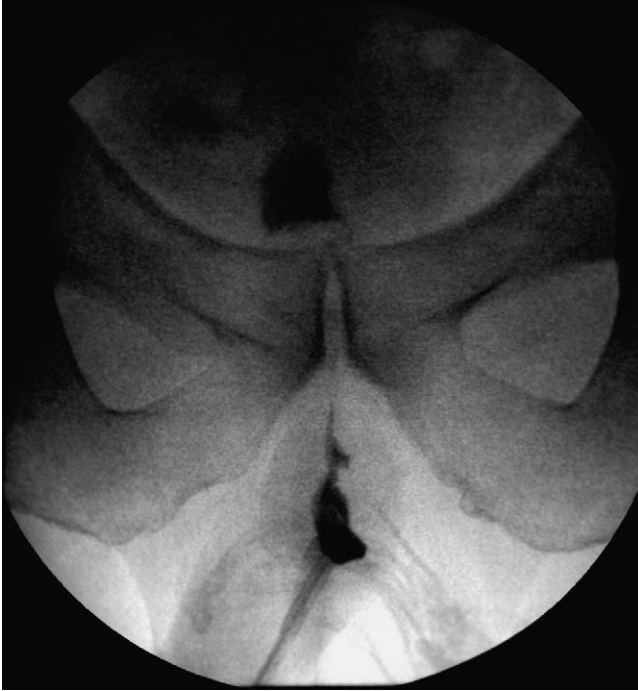


Fig. 5 – Ascending urethrogram shows almost complete obliteration of the prostatic urethra.

infarction of the prostate, implying that the appearances of the urethral sphincter were also due to infarction (Fig. 4). After the catheter was removed, the patient was totally incontinent and was managed with urosheaths and pads. Two months later an ascending urethrogram showed almost complete obliteration of the prostatic urethra (Fig. 5). During this time the cutaneous pyoderma gangrenosum fluctuated in severity although better control was obtained with the introduction of high-dose minocycline, which allowed tapering of prednisolone.

The working diagnosis was infarction of the prostate and sphincter secondary to pyoderma gangrenosum. A further transurethral resection was therefore performed down to the sphincter because the anatomic landmarks had been obliterated by scar tissue and an artificial urinary sphincter was inserted. Once again histology revealed only necrotic tissue consistent with infarction and no evidence of malignancy. One year later the artificial sphincter was removed due to recurrent ulcerative infections eroding the skin of the scrotum.

EU-ACME question

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Question:

Which statement on pyoderma gangrenosum is correct?

- A. Pyoderma gangrenosum has a multifactorial aetiology and is mostly the first symptom of an autoimmune disease or malignancy.
- B. Pyoderma gangrenosum is a reactive inflammatory dermatosis with heterogeneous clinical aspects, which is diagnosed by exclusion.
- C. Histopathologic findings of pyoderma gangrenosum are not specific but in combination with clinical findings it is always possible to establish a diagnosis.
- D. Treatment of pyoderma gangrenosum consists of surgical excision of the affected lesions in combination with immunomodulating agents.