Bacillus Calmette-Guerin (BCG)-induced balanitis following intravesical immunotherapy for urothelial cancer

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Accepted 15 March 2021

DESCRIPTION

A 64-year-old man presented with multiple whitish macules in penis of 1-week duration. Detailed history revealed that the patient was diagnosed with non-muscle invasive T1 high-grade urinary bladder cancer and planned for intravesical Bacillus Calmette-Guerin (BCG) immunotherapy. The patient received 6 weekly cycles of 120 mg BCG intravesically. On follow-up, the patient reported mild dysuria and noticed one whitish patch over glans penis, which gradually progressed to involve whole of glans in 1 weeks' time. The patient had severe pain and discomfort in the penile region. On examination, his vitals were normal. Local examination showed redness of glans penis with multiple whitish macules present all over the glans which was painful on touch ([figure 1](#)). Rest of penis was normal and there were no evidence of body rashes or pigmentation or regional lymphadenopathies. X-ray of the chest was grossly normal. Fine needle aspiration cytology of the lesion revealed granulomatous inflammation with necrosis suggestive of BCG-induced balanitis ([figure 2](#)). Further instillation of intravesical BCG was withheld. Routine work up including hemogram, renal, liver function and urine analysis was within normal limits. The patient was started on tablet isoniazid and rifampicin along with oral analgesics for symptomatic relief. At 3 months, lesion waned and antitubercular agents were stopped. As the patient was diagnosed with T1 high-grade urothelial cancer, after complete resolution of symptoms, check cystoscopy showed no evidence of recurrence. Later,

Figure 2 Fine needle aspiration histology image showing caseating granuloma composed of epithelioid histiocytes and central necrosis, with surrounding chronic inflammation.

the patient received 6 weekly cycles of injection gemcitabine 2 g intravesical instillation followed by monthly injections for 12 months. Check cystoscopy at 3 monthly intervals is normal and shows no evidence of recurrence.

Intravesical BCG is well-established therapy for superficial bladder cancer. Complication is variable and rarely cause systemic sepsis. Granulomatous balanitis is uncommon.^{1 2} One possible hypothesis is direct penis inoculation by traumatic urethral

Figure 1 Penis with prepuce retracted showing generalised redness in glans penis suggestive of inflammation and multiple whitish macules of size 0.5–1 mm all over the glans penis.

Patient's perspective

I am thankful to whole team of doctors for proper guidance and treatment.

Learning points

- ▶ Bacillus Calmette-Guerin (BCG)-induced balanitis is a rare following intravesical immunotherapy for urothelial cancer.
- ▶ One should be aware of this condition as BCG is commonly used for recurrence and progression and non-invasive urinary bladder cancer.
- ▶ Prompt diagnosis and treatment is essential to prevent widespread systemic disease.

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To cite: Kumar S, Thummala Y, Parmar KM, et al. *BMJ Case Rep* 2021;**14**:e240778. doi:10.1136/bcr-2020-240778

catheterisation prior to BCG instillation.³ Most patients respond to antitubercular agents.⁴ Further BCG instillation should be avoided and other chemotherapeutic agents may be used. On follow-up, the patient is doing well and has no recurrence on cystoscopy.

Acknowledgements We sincerely thank the patient for consenting to use of images for research work.

Contributors KMP and SK—Design, concept, data collection, manuscript draft and revision. YT and AC—Images collection and editing.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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