An Unexpected Turn in a Case of Septic Shock Following Bladder Cancer Therapy

Daniel Teitelbaum[1], Umberin Najeeb[1]

[1]Department of Medicine, University of Toronto, Toronto, Canada

Patient Presentation

CC: 85-year-old male presents to hospital with confusion, chills, and lower urinary tract symptoms

Past Medical History:

- **T1 high-grade urothelial carcinoma treated with TURBT and intra-vesical BCG (2 doses)**
- Chronic kidney disease
- Dyslipidemia

Hospital Course

Triage Vitals: BP 80/50 mmHg, HR 118 bpm, T40.1˚C

ICU Admission
Piperacillin-Tazobactam + Norepinephrine

Investigations
Urine cultures, blood cultures x2 – no growth
Chest X-Ray normal
Creatinine 230, ALT 75, ALP 140, Bilirubin 4

Sepsis with no clear source:

1. Severity of sepsis
2. Negative pan-cultures
3. Difficult catheterization with recent intravesical-BCG treatment

Possible BCGosis

Diagnostic testing:

- Blood and urine smear for AFB
- Blood and urine mycobacterial culture

Empiric treatment:

- Rifampin, Isoniazid, Pyridoxine in consultation with ID

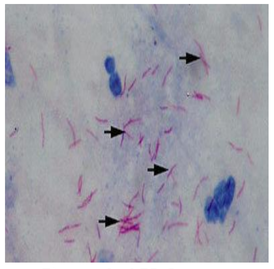
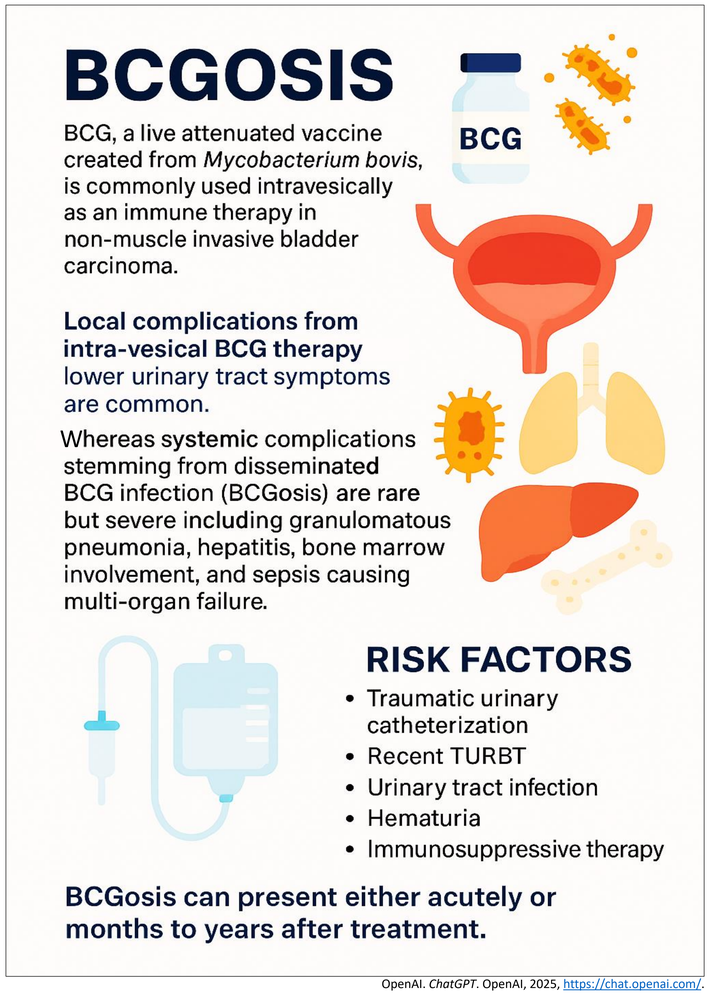


Figure 1. AFB Smear

Case Resolution

- Discharged to rehab on empiric therapy.
- Developed Drug induced Liver Injury (ALT 371), empiric therapy put on hold.
- 2-weeks post discharge re-admitted with hypercapnic respiratory failure and septic shock, and passed away despite appropriate management.
- **Urine culture grew *Mycobacterium tuberculosis* complex, speciating to *Mycobacterium bovis BCG***

Discussion



OpenAI. *ChatGPT*. OpenAI, 2025, https://chat.openai.com/.

Take Home Points

1. BCGosis is a rare complication of intra-vesical BCG treatment that can present as organ dysfunction and septic shock.
2. It is critical to keep BCGosis on the list of differential diagnosis for patients with recent or remote intra-vesical BCG treatment.

Acknowledgements

Medicine
UNIVERSITY OF TORONTO

Sunnybrook
HEALTH SCIENCES CENTRE

REFERENCES

1. Kanipe, C. & Palmer, M.V. Mycobacterium bovis and you: A comprehensive look at the bacteria, its similarities to Mycobacterium tuberculosis, and its relationship with human disease. *Tuberculosis* 125, 102006 (2020).
2. Lidagoster, S., Ben-David, R., De Leon, B. & Sfakianos, J.P. BCG and Alternative Therapies to BCG Therapy for Non-Muscle-Invasive Bladder Cancer. in *Current Oncology*, Vol. 31 1063-1078 (2024).
3. Oladiran, O., Nwosu, I., Oladunjoye, A. & Oladunjoye, O. Disseminated BCG sepsis following intravesical therapy for Bladder Carcinoma: A case report and review of literature. *J Community Hosp Intern Med Perspect* 10, 168-170 (2020).
4. Liaw, F., Tan, Y.Y. & Hendry, D. Systemic BCG-osis following intravesical BCG instillation for bladder carcinoma. Clin Case Rep 5, 1569-1572 (2017).
5. Tregidgo, L., et al. Delayed-onset disseminated BCG disease causing a multi-system illness with fatal mycotic aortic aneurysm. Clinical Infection in Practice 17, 100216 (2023).
6. Sharma, P.R. & Tiwari, P.K. Health status of Sahariya tribe of central India. Rural Remote Health 7, 791 (2007).
7. OpenAI. *ChatGPT*. OpenAI, 2025, https://chat.openai.com/.

An Unexpected Turn in a Case of Septic Shock Following Bladder Cancer Therapy

- Daniel Teitelbaum – No Conflicts to Disclose
- Umberin Najeeb – No Conflicts to Disclose