

## Lethal Tetanus Infection In Dry Gangrene of Toe

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### INTRODUCTION:

Tetanus is a life-threatening, preventable disease affecting approximately 1 million people worldwide each year (1). The organism, *Clostridium tetani* usually enter the body through open wounds usually via a penetrating injury. Gangrene and diabetic foot ulcer should be considered tetanus-prone wounds (2).

### REPORT:

A 62-year-old lady with underlying diabetes mellitus presented to emergency department with lower jaw, upper back, and neck pain for 2 days. A week prior, she had a history of penetrating injury to her left big toe resulting in an ulcer. Clinically, the patient had trismus and limited neck range of motion. The neurological examination of all limbs revealed hyperreflexia. There was a dry gangrene of the left first and second toes (Figure 1). The blood investigations were within normal parameters. A contrasted CT cervical and neck ruled out mechanical causes of trismus.

She was treated as presumed tetanus with dry gangrene of toes. She was prescribed intramuscular (IM) Tetanus Immune Globulin (TIG) 500IU as passive immunotherapy and IM Anti-tetanus toxoid injection. She was admitted to intensive care in a controlled environment dark room and low noise to reduce triggers for spasm. Despite that, she continued having generalized tonic seizures. She was planned for debridement and Ray amputation of left big toe and 2nd toe to remove the source of infection. Whilst optimizing patient for surgery, she was given another injection of IM TIG 500IU as well as a local injection surrounding the wound with 250IU.

Post-surgery, her condition deteriorated. Eventually, she succumbed to death and the cause of death was determined as cardiogenic shock with underlying tetanus.



**Figure 1: Dry gangrene of left first and second toes.**

### CONCLUSION:

A high index of suspicion of tetanus infection should be considered in patient presenting with a wound and an unexplained persistent spasm. Early administration of passive immunization with TIG and active immunization with Tetanus toxoid combined with surgical source control are the standard of care. Penetrating injury, gangrene and diabetic ulcers are considered tetanus-prone wound and may require anti-tetanus toxoid injection as prevention.

### REFERENCES:

1. Bhatia R et al. Tetanus. *Neurol India* 2002;50:398–407
2. Rogers L et al. Tetanus Prophylaxis for Diabetic Foot Ulcers. *Clinics in Podiatric Medicine and Surgery* 2006;23(4), 769–775.