

Infected sacral pressure sore and jerky movements in an elderly patient: Don't forget tetanus

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Background

Tetanus is a rare infection in the UK with an average of less than 10 cases of tetanus per year reported in England and Wales.



Microscopy of *Clostridium tetani*
www.cdc.gov

The incidence of tetanus in the UK decreased following the introduction of national tetanus immunisation in 1961.

A recent analysis of tetanus cases in England 2001-2014 identified that most cases occurred following minor injuries in the garden.

All deaths occurred in patients >45 years and 8.8% were appropriately immunised for age.

Tetanus is a clinical diagnosis defined as 'trismus with one or more of the following: spasticity, dysphagia, respiratory embarrassment, spasms or autonomic dysfunction.'

Clinical Case

Day 1

A 72 year old female was admitted via the Emergency Department with sepsis associated with a huge Grade 4 sacral sore involving most of the gluteus maximus muscle and acute kidney injury (AKI) secondary to rhabdomyolysis.

The patient had been found sitting on sofa incontinent of faeces and urine, unable to get up.

The patient was treated empirically with piptazobactam, clindamycin and gentamicin.

Past Medical History: Thyrotoxicosis, right total hip replacement, smoker

The pressure sore was debrided in theatre and a dressing applied. The patient was admitted to the critical care unit, required noradrenaline for blood pressure support.

Gram stain results of samples sent from theatre

Tissue samples

WBC+; Gram negative bacilli ++

Tissue fluid

No WBC seen; Gram negative bacilli +

Day 2

Febrile with faecal soiling of the debrided areas in spite of bowel management system. AKI improving.

Jerky movements of limbs were noted overnight which settled with midazolam boluses.

For EEG and neurology review.

Microbiology results update

Providencia rettgeri and *Enterococcus faecalis* growing from tissue and fluid samples.

Day 3

Massive myoclonic jerks.

Febrile with inflammatory response. Continued double strength noradrenaline. AKI improving.

Returned to theatre for dressing change.
Midazolam stopped

Meanwhile.... in the microbiology laboratory....

Clostridium tetani growing from tissues and fluid (in addition to *P. rettgeri* and *E. faecalis*)

Myoclonic jerks consistent with tetanus

Management

- Antibiotic treatment continued
- Intravenous immunoglobulin administered
- Tetanus immunisation status of patient unknown



[Tetanus: the green book, chapter 30](#)

The patient did not improve and developed multi-organ failure. Active treatment was withdrawn day 10 after admission.

Discussion

This tetanus case demonstrated a number of unusual features.

- Tetanus was diagnosed by culture results rather than a clinical diagnosis. Cultures are frequently negative in patients with clinical tetanus.
- The sacral pressure sore with faecal contamination was the likely source of the *C. tetani*. This is an unusual source for tetanus infection.
- The main presenting signs were of sepsis associated with the infected wound rather than neurological.
- Tetanus was not suspected until *C. tetani* was isolated. The patient was by then already receiving the supportive care required to treat tetanus when the diagnosis of tetanus was made.

It was not immediately recognised that a chronic pressure wound is a tetanus-prone wound. The patient was born before tetanus immunisation was introduced nationally and the patient's immunisation status was not known.

Conclusions

There needs to be increased awareness that chronic wounds are tetanus-prone.

The tetanus vaccination status in all patients with chronic wounds should be established and appropriate actions for immunisation should be taken.

References

- Public Health England. Tetanus: information for healthcare professionals 2015.
- Immunisation against infectious disease (the 'Green Book') <http://immunisation.dh.gov.uk/category/the-green-book/>
- Verde F, Riboldi G, Zappa C, et al. An old woman with pressure ulcer, rigidity, and opisthotonus: never forget tetanus! *Lancet* 2014; 384: 2266.
- Farnworth E et al. Tetanus in patients with chronic wounds-are we aware? *Int Wound J* 2012; 9: 93-9.
- Collins S, Amirthalingam G, Beeching NJ, et al. Current epidemiology of tetanus in England 2001-2014. *Epidemiol Infect* 2016; 18: 1-11.

Acknowledgements Public Health England Infection Service for their advice