

Case presentation

A 49-year-old man living with HIV/AIDS (CD4 163 cells/mm³; on antiretroviral therapy) presented to the emergency department of a major public hospital in Kampala, Uganda complaining of a “locked” jaw for the prior two days.

On further questioning, the patient reported having a motorcycle accident one week prior with a laceration of his right heel for which he sought care at a peripheral clinic. The wound was cleaned and he was started on ampicillin/cloxacillin PO. He subsequently developed a “locked” jaw two days prior to presentation with associated intermittent upper body muscle spasms and progressive dyspnea.

Physical Exam

- HR 140 bpm, RR 25-30 bpm, Sat O₂ 89%, BP 116/72 mmHg, T 36.7
- Ill appearing, notable trismus
- intermittent upper body spasms
- 5 x 2 cm laceration right heel (Fig. 1)



Fig. 1 Right heel laceration

Work-up

- CBC wnl, CMP mild AST elevation
- CXR unremarkable, EKG sinus tachycardia

Initial Management

- Oxygen supplementation
- Anti-tetanus immunoglobulin
- Tdap vaccine
- Wound debridement
- IV metronidazole
- IV benzodiazepines
- Admitted to general ID ward

Hospital Course

- Hospital day 2- worsening tachycardia (180s bpm) severe hypertension, worsening hypoxemia, respiratory acidosis
- Transferred to ICU for NIPPV, IV Midazolam and magnesium sulfate infusions
- Hospital day 3- persistent tachycardia, shock, PEA cardiac arrest with unsuccessful resuscitation efforts

Discussion

- Tetanus is a nervous system disorder caused by a toxin (tetanospasmin) produced by *Clostridium tetani*
- Generalized tetanus- trismus, opisthotonos, risus sardonicus, autonomic hyperactivity, periods of apnea
- Diagnosis is clinical
- Differential diagnosis: strychnine intoxication, drug induced dystonia
- Management^{1,2}
 - Halt toxin production (debridement and antibiotics- metronidazole vs penicillin)
 - Neutralization toxin (tetanus immunoglobulin)
 - Control of muscle spasms (benzodiazepines)
 - Autonomic hyperactivity (magnesium sulfate/adrenergic blockade)
 - Respiratory failure
- Since implementation of vaccination disease has become rare (see Fig.2), but still potentially fatal

U.S. Reported Tetanus Cases, 1947-2019

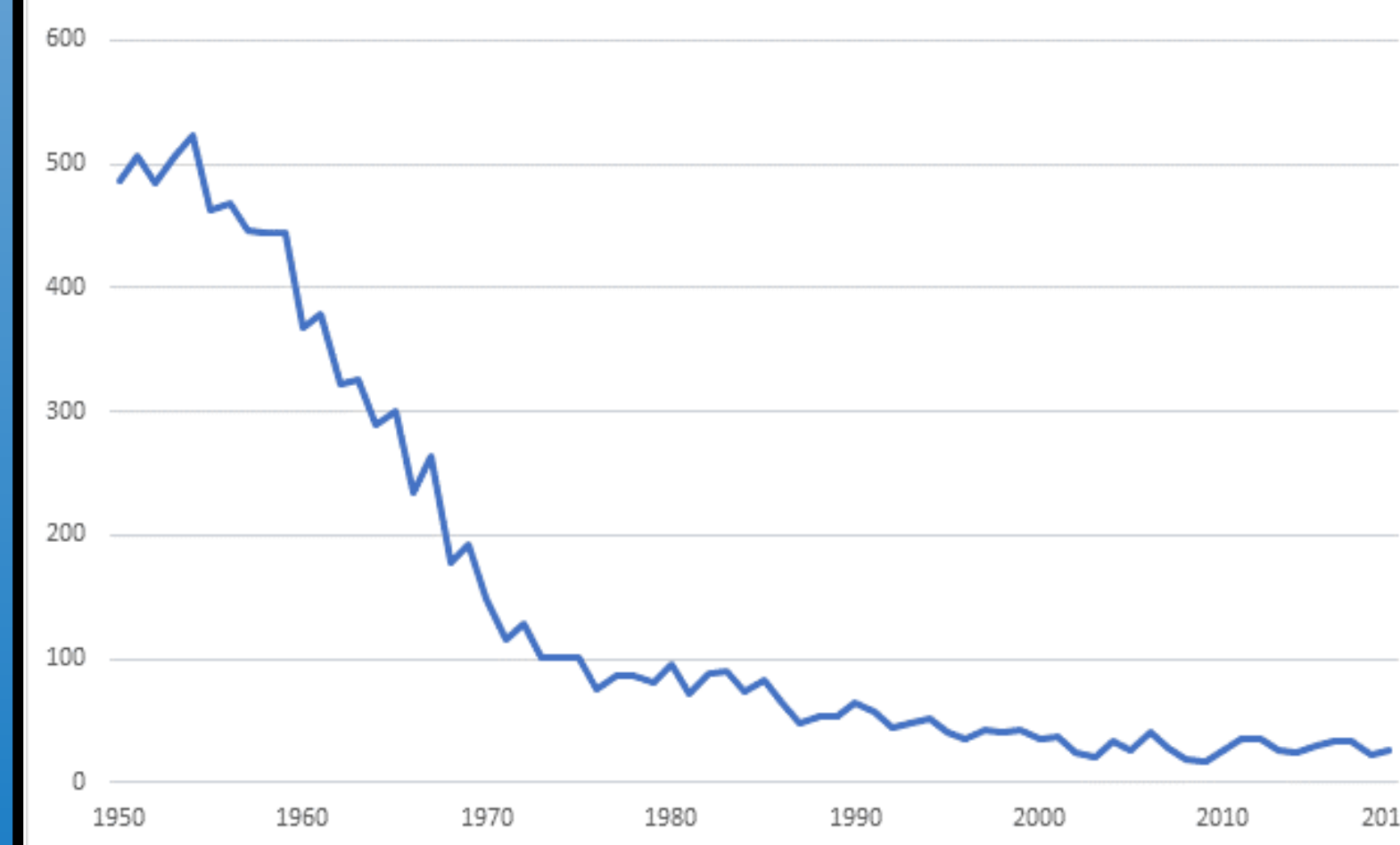


Fig. 2 Tetanus cases in the United States during 1947–2019, according to the National Notifiable Disease Surveillance System⁵

References

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