TETANUS (Lock Jaw)

Introduction
- Nervous sys infection
- severely Fatal
- caused due to Muscle spasms ← intense motal neuron activity.

Etiology
Gram +ve, anaerobe + sporadic
Clostridium Tetani
- commensal in Human/Animal GIT, Soil.
- Act as synapse ⇒ prevent inhibition of spinal signals.
  ↳ causing spasms.

seen after
- Injury, lacerations, abrasion
- Pt ī abscess, ulcer, gangrene.
  Pt ī burns, frostbite, midear inf, abortion, childbirth
- Neonatal Tetanus +nt (80-90% mortality)

Epidemiology
pt living in rural areas (soil cultivation)
warm areas, summer.
- M > F.

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Pathology

Anaerobic env ⇒ ↓ O_2 Red. Pote

⇓

spores germinate

⇓

Neurotoxin = Tetanospasmin

⇓ in wounds.

attached to peripheral terminal M. neuron

retrograde intraaxonal transport.

axon

synapse ← cellbody (-ve Neurotransmitter)

presynaptic terminal ⟹ Inhibit GABA, Glycin

Muscles ⇒ short C. Nerves ⇓ affected easily

rest-fix state of M. neuron ⇓ rigidity

Clinical features

Incubation Period = (3 days - 4 weeks)

- Tetanus Vaccine = prolonged dormant phase.

Tetanospasmin → hypersensitivity of voluntary M ⇓ rigidity, spasm.

Tetanus
- localised → cephalic (Brain related)
- Generalised
- Neonatal (umbilical cord affected)

Generalised Tetanus

various muscles affected.

1. Temporal M, Masseter M ⟹ lock jaw, Trismus.
2. Dysphagia. (difficulty swallowing)
3. Stiffnes, pain ← Neck → Opisthotonus; Back M → Arched back; shoulder, proximal limb muscle.
4. rigidity → interfere chest movement, inhibit cough, swallowing reflex
5. Laryngeal spasm ⟹ asphyxia. (O_2 def)

- rigid abdomen
- stiff Hand, feet not affected (facial exp ↓ Grimace / sneer ↓ risus Sarcodinus.

Localised Tetanus
- near wound.
- uncommon.
- cephalic T → [Trismus, facial palsy.
  - cause → Head injury, mid ear inf.
  - lead to → acute oral inf.
    pterygomandibular space inf
    masticator space inf
    TMJ dysfunction
    Trauma
    hysteria.

diff/d → Strychnine poisoning (No muscle rigidity)
Ca def. tetany (Physiologic tetanus)
drug induced rxns.

Treatment

General measure
- removes spores from wound
- prevent toxin formation
- prevent muscle spasm.
- cardiopulmonary monitoring
- sedation, airway, nutrition → secured

Antibiotics → penicillin – 10-12 unit, iv → (10) days.
metronidazole – 1gm every 12 hrs.
clindamycin / erythromycin → (Penicillin allergy)

1 vaccine mai 6 shots

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Antitoxin TIG (Human Tetanus immunoglobuli~~n~~)
(3000-6000 units — im
(500 = optimal etl dose)

prophylaxis
wound debriment
Booster dose TT,

unimmunised individual → TIG - 250 units.
Anti tetanus serum - 1500 units..

Dosage sched

Triple vaccine → 8, 12, 16 weeks.
[ratio = 6:1]

Booster = 3yrs, 4
[ratio = 4 in 1]

final booster = 14 yrs age
[ration: 3 in 1]