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Tetanus

Acute infectious disease that is characterized by a prolonged contraction of skeletal muscle fibers. The primary symptoms are caused by tetanospasmin, a neurotoxin produced by the Gram-positive, obligate anaerobic bacterium *Clostridium tetani*. Infection generally occurs through wound contamination, and often involves a cut or deep puncture wound. As the infection progresses, muscle spasms in the jaw develop hence the common name, *lockjaw*. This is followed by difficulty swallowing and general muscle stiffness and spasms in other parts of the body. Infection can be prevented by proper immunization and by post-exposure prophylaxis.

The most common initial sign is spasms of the muscles of the jaw, or "lockjaw".

Tetanus symptoms include:

- Headache
- Jaw cramping
- Sudden, involuntary muscle tightening – often in the stomach (muscle spasms)
- Painful muscle stiffness all over the body
- Trouble swallowing
- Jerking or staring (seizures)
- Fever and sweating
- High blood pressure and fast heart rate

M.O.T (Common):

Spores introduce into human through:

- post traumatic wound which are dirty wound with tissue necrosis and D.M patient
- post abortal and postpuerperal
- neonatal tetanus
- circumcision and postsurgical
- burns
- Wounds contaminated with dirt, poop (feces), or spit (saliva)

M.O.T. (Rare): Tetanus has also been linked to clean superficial wounds (when only the topmost layer of skin is scraped off), surgical procedures, insect bites, dental infections, compound fractures (a break in the bone where it is exposed), chronic sores and infections, and intravenous (IV) drug use.

The incubation period – time from exposure to illness – is usually 3–21 days (average 10 days), although it may range from 1 day to several months, depending on the kind of wound. Most cases occur within 14 days. In general, shorter incubation periods are

seen with more heavily contaminated wounds, more severe

disease, and a worse outcome of the disease (prognosis).

Case fatality rate CFR: ranges from 10-90% and it depends on age, I.P (the shorter it's the more serious the higher CFR. Also the shorter the time between locked jaw and the generalized spasm the more serious, Present of complication, type of wound; deep, dirty, contain F.B

Period of communicability

Not present because no transmission from man to man.

Reservoir:

- faeces of various animals, including man
- contaminated soil or fomites

- Spores –anywhere for e.g dust.

Prevention:

- Educate about the disease and its M.O.T.
- Avoid contact with animals.
- Active immunization:

the recommended schedule With tetanus toxoid (DPT) triple

vaccine formulation; in 5 doses which give at least 10years

protection;

2m, 4m, 6m, 18m, 5year, the last 2 is booster doses.

Now they are given (DT)vaccine 250 unit I.M without pertusis

in age of more than 7years old.

And (Td) diluated diphateria in age of more than
10years old.

You should give the vaccine for population at risk; animals workers with excreta, farmers, veterinarian, sewage workers, military and police man.

Control & post exposure prophylaxis:

- Antibacterial measures: protect wounds from contamination, adequate cleansing of wound with careful debridement, wound toilet with H₂O₂, and better not to suture it.

Long acting penicillin 1200mg injection followed by oral penicillin or erythromycin for 7 days. can also be given

- Use of a clean sterilize instrument for cutting umbilical cord at baby delivery.
- IV injection of 3000 unit of human tetanus antitoxin.

- Passive immunization (TIG) from human blood; specially used in dirty wounds, and in people who doesn't have clear history of tetanus toxoid immunization.
- Maintain hydration and nutrition
- Treat secondary infection
- Control spasm by iv diazepam.
- Put patient with tetanus in a dark, quite room.

Tetanus neonatorum

Tetanus in neonates is usually generalized and frequently fatal. It often begins in an inadequately cleansed umbilical stump in



children born of inadequately immunized mothers. Onset during the first 2 wk of life is characterized by rigidity, spasms, and poor feeding. Bilateral deafness may occur in surviving children.

Common, serious disease, CFR:> 80%

C/P: 3-4 days nothing appear, after that irritability, relating to feed due to spasm, whistling expression, gener.spasm

Prevention:

1- provide natal care with immunize coverage specially pregnancy

2- Increase the delivery handed by Trained Birth Attendance staff(TBAs) with continuous education to them.

3- Non-immunized mother give 5doses;
during 1st trimester, than 1month later, than 3months later,
than 6month later, than last dose 1year later after the 4th
dose.