Tetanus



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Disclosures

None

Objectives

- At the end of this talk the participants should be able to -
- Understand what is Tetanus and how it is caused.
- Identify the common presenting features of tetanus.
- Recognize the different types of tetanus
- Confirm the diagnosis of tetanus
- Know the principles of management of tetanus
- Become familiar with the strategies for the Prevention of tetanus

Key Messages

- Tetanus is an acute lethal illness characterized by painful muscle spasms
- It is caused by a neurotoxin produced by spore-forming bacterium Clostridium tetani.
- It occurs in non immunized individuals and is common in resource limited countries
- There are Four main types of tetanus Generalized, Neonatal, Localized and Cerebral tetanus
- Characteristic features include tonic spams lock jaw, risus sardonicus, opisthotonos
- Others features irritability, dysphagia, fever, and autonomic effects including tachycardia, dysrhythmias, labile hypertension, diaphoresis
- Complications include respiratory distress, aspiration pneumonia, rhabdomyolysis, autonomic dysfunction, asphyxia, long bone fractures
- Neonatal tetanus occurs in newborns of unimmunized mothers usually from infection through contaminated umbilical cord.
- It typically manifests within 3-12 days of birth with irritability, progressive difficulty in feeding, facial grimacing, rigidity, and severe spasms triggered by touch.

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Key Messages

- Diagnosis is mainly clinical.
- Management involves
 - neutralization of tetanus toxin,
 - control of spasms,
 - maintenance of respiration,
 - meticulous supportive care and
 - prevention of recurrences.
- Human Tetanus Immune Globulin should be used as soon as possible
- Wound debridement is important
- Metronidazole decreases the number of vegetative forms of C. tetani ,
- Muscle relaxants are needed for painful muscle spams
- Tetanus is entirely preventable through immunization with tetanus-toxoid-containing vaccines.

References

- Bae C, Bourget D. Tetanus StatPearls NCBI Bookshelf. Last Update: May 12, 2021. https://www.ncbi.nlm.nih.gov/books/NBK459217/
- Berkowitz AL. Tetanus, Botulism, and Diphtheria. Continuum (Minneap Minn). 2018 Oct;24(5,Neuroinfectious Disease):1459-1488.
- Blain A, Tiwari T. CDC. Manual for the Surveillance of Vaccine-Preventable Diseases. https://www.cdc.gov/vaccines/pubs/surv-manual/chpt16-tetanus.html#
- European Centre for Disease Prevention and Control. Disease factsheet about tetanus. https://www.ecdc.europa.eu/en/tetanus/facts
- Hao NV et al. The management of tetanus in adults in an intensive care unit in Southern Vietnam.
 Wellcome Open Research 2021, 6:107 Last updated: 07 JUN 2021
- Karnad DR, Gupta V. Intensive Care Management of Severe Tetanus. Indian J Crit Care Med. 2021 May;25(Suppl 2):S155-S160.
- Schleiss MR. Tetanus. In Nelson Textbook Of Pediatrics Eds Robert M. Kliegman, Joseph W. St Geme iii, Nathan j. Blum, Samir S. Shah, Robert c. Tasker, Karen M. Wilson, Richard E. BEHRMAN, Elsevier 21 st edn 2020; pp 6253-6264
- Tetanus vaccines: WHO position paper, February 2017 Recommendations. Vaccine (2017), http://dx.doi.org/10.1016/j.vaccine.2017.02.034
- Tetanus WHO Fact Sheet 9 May 2018, https://www.who.int/news-room/fact-sheets/detail/tetanus