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Clinical Profile of Patients with Tetanus

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Abstract

Introduction: Tetanus is more common in warm climate and rural areas, where the soil is fertile and cultivated with manure, where poverty dominates and people walk barefoot, where animal population is high, where there is no good sanitation, and facilities to prevent sepsis is not available and people are more prone to minor cuts and bruises. *Methodology*: Then a case of tetanus was admitted to Isolation ward of Government General Hospital, a detailed clinical history was taken and clinical examinations was performed, these findings were entered in cyclostyled proforma. Necessary relevant investigations were performed at the time of admission *Results:* The site of infection revealed that the most common site was lower extremity (34%) followed by upper extremity (21%) and head / neck (17%),Unknown cases constituted 22%. *Conclusion*: The incidence of tetanus is supposed to be more in the age group 11 to 30 years. Because of the active life of persons. They are exposed to frequent injuries

Keywords: Tetanus; Incidence; Mortality.

Introduction

The causative bacillus claustridium Tetani (Genera: Claustridium Prazmowask) is always the same but the manner in which the spores of the organism enter the body is not always apparent. There are numerous ways in which this may happen. Frequently an insignificant wound suffices to admit the organism of a total infection. But many times it is impossible to find the wound of entrance or the focus of infection. Contamination of the umbilicus in a new born is still an all too frequent an occurrence [1]. Any trauma, may it be a major crush injury or just a vaccination prick, can act as a portal of entry, specially if it is contaiminated with manuered soil. Septic foci like otorrhoea or septic abortion, are other well known causes. The planting of spores in the clean operative wounds during dust storms was a real source of infection in some parts of U.S.A. Before the abandonment of the chemical preparation of catgut; patients some time became infected with Tetanus from improperly sterilised suture material. The mere disposition of spores in to the tissues does not suffice. There must be concomitant necrosis of tissue due to trauma or a foreign body or an associated pyogentc infection to facilitate the growth of C1. Tetani. The spores germinate where there is diminished oxygen Tension. Tetanus is more common in warm climate and rural areas, where the soil is fertile and cultivated with manure, where poverty dominates and people walk berfoot, where animal population is high, where there is no good sanitation, and facilities to prevent sepsis is not available and people are more prone to minor cuts and bruises [2].

Males out number females. The incidence is maximum between the age of 3 to 30. Tetanus following injection is common with drugs that cause muscle necrosis (Eg. Quinine). It is also common among drug addicts, who inject themselves do not bother much about sterilising the needle and syringes

The disease usually follows an injury. The incubation period varies from one day to several weeks, commonest being 6 to 12 days. Usually there are no premonitory symptoms during the incubation period, but K. Elver who himself suffered from tetanus, described the premonitary symptoms for the first time. They include sleeplessness, disturbing

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dreams, low grade delirium, difficulty in micturition from spasm of bladder sphincter, giddiness, headache, yawning, anixious expression, trembling of the tongue, sweating, darting pains, throbbing in the great vessels, excessive salivation, dysphagia, nystagmus, strabismus, coughing and hyper acusis etc. Speth and Greenfield too, have described, headache, insomnia, myalgia and irritability as the premonitary symptoms [3]. Though these features are most likely due to the local wound and form the part of baseline symptoms to illness in the population. Many patients who later developed a stormy course of disease are recorded to have described a peculiar fear of impending disaster as a premonitary symptom.

In unmodified disease, the muscles around the wound contract first. But lock jaw is the presenting symptom in 90% of cases; which may be associated with difficulty to eat. The remaining 10% present with painful and / or stiff neck or rigidity of the wounded limb or dysphagie or reflex spasms.

Rigidity and reflex spasms are the principle clinical features of tetanus. As a result of rigidity of the muscles of the jaw, patient develops difficulty in opening the jaw (Trismus). It is soon followed by the rigidity of the muscles of the face, neck, trunk and limbs. However, in a few cases, rigidity may remain restricted to jaw muscles only. Rigidity of the face muscles gives a peculiar facial expression "Risus sar domicus" (sad smile). It results from pressing of the lips and retraction of the angles of mouth with raised brows, specially being evident when the patient tries brows, specially being evident when the patient tries to show his teeth. Rigidity of the pharyngeal muscles lead to dysphagia. Rigidity of the neck results from the stiff neck muscles. Rigidity of the muscles of the back lead to backward bow like arching of the body (opisthotonus), and rigidity of the anterior muscles may lead to a forward arching (Emprosthotonos) [4]. All muscles may get subsequently affeacted to give a statusquo attitude (Orthotonus).

Methodology

This work essentially consists of clinical study and management of tetanus cases admitted to Government General Hospital.

Then a case of tetanus was admitted to Isolation ward of Government General Hospital, a detailed clinical history was taken and clinical examinations was performed, these findings were entered in cyclostyled proforma. Necessary relevant investigations were performed at the time of admission. The Diagnosis of the disease was always essentially clinical.

When patient complained of dysphagia it was noted whether it was mild, moderate, severe or most severe.

Mild	:	The patient can swallow only a few drops of liquid.
Moderate	:	The patient can swallows only a few drops of liquid.
Severe	:	The patients can swallow few drops of liquid with difficulty.
Most severe	:	The patient gets asphyxiated while attempting to swallow.

The rigidity in patients body too was graded as mild, moderate, severe and most severe.

Mild Rigidity

Range of movements normal but movements not free and spontaneous movements present.

Moderate Rigidity

Spontaneous movement minimum.

Severe Rigidity

Spontaneous movement absent.

Most Severe Rigidity

Persistent opisthotonus. The trismus (Lock Jaw) was also graded into mild, moderate and severe.

Mild Trismus

The interdental fissure would admit two fingers.

Moderate Trismus

The Interdental fissure would admit only one finger.

Severe Trismus

The patient showed inability to open the mouth.

Results and Discussion

Table 1: Age incidence of tetanus

Age group	Number	Percentage
0 – 10 years	12	12
11 – 20 years	12	12
21 – 30 years	18	18
31 – 40 years	37	37
41 – 50 years	10	10
51 – 60 years	06	06
36 – 40 years	05	05
Total	100	100

The most common age group involved was 31–40 years (37%) followed by 21–30 years (18%), 11–20 years and less than 10 years (12% each)

Table 2: Gender wise incidence of tetanus

Gender	Number	Percentage
Male	70	70
Female	30	30
Total	100	100

Males (70%) were more commonly affected than females (30%)

Table 3: Sites of infection

Site of infection	Number	Percentage
Umbilicus	03	03
Head / neck	17	17
Torso	03	03
Upper extremity	21	21
Lower extremity	34	34
Unknown	22	22
Total	100	100

The site of infection revealed that the most common site was lower extremity (34%) followed by upper extremity (21%) and head / neck (17%) Unknown cases constituted 22%

Table 4: State of immunization

Immunization	Number	Percentage
Yes	22	22
No	78	78
Total	100	100

Only 22% of cases were immunized

The incidence of 10.65 per thousand at the Government General Hospital, Gulbarga. It may be realized that this does not show the true incidence of tetanus cases in this area as may milder cases are treated outside the Hospital by practitioners and many more cases in the villages are managed by the physicians there.

When this incidence is compared with 0.3 per thousand at New Orleans Charity Hospital one can understand the magnitude of the problem faced by u in India [5].

The incidence of tetanus is supposed to be more in the age group 11 to 30 years. Because of the active life of persons. They are exposed to frequent injuries. This is followed by increased incidence.

The ratio of male to female has been 1:0.7. This is due to increased exposure of males to injuries.It has been shown that the frequency of tetanus is more in non-immunized (78%) persons as compared with immunized persons (22%) and it has been shown that most of the immunized frequency patients are from urban area the urban population is more aware of the disease and they do take prophylactic measures. Active immunization is supposed to give almost 100% immunity from tetanus. High incidence of tatenus in these communized is indicative of improper immunization.

Trauma has been the commonest source of infection, particularly to the lower limb because of most of the rural people walk bare tested and thus more prone for trauma [6].

Next in incidence is the unknown factor (idiopathic) where the source was not found.

As most of our patients are poor, live the very un hygenic life and are exposed to many cuts and scratches every day which gets contaminated and it is thus difficult to know which injury really caused the disease.

Conclusion

The prognosis in tetanus has been described to depend upon many factors such as age, sex, general physique, incubation period, period of onset, severity of disease, fever and nature of complications, portal of entry, nature and site of injury

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