OBSERVATIONS
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This present study was conducted on 225 cases suffering tetanus of all age groups, who were admitted at M.L.B. Medical College, Jhansi from June, 1967 to May, 1968. We made the following observations -

1. Incidence & mortality of tetanus (Table 1)

Out of total hospital admissions of 21,048 patients in this institution, 225 (1.06%) cases were due to tetanus. There were 101 deaths (8.52%) due to tetanus. Out of total hospital deaths of 1165.

2. Incidence & mortality of tetanus in different age groups (Table 2)

The highest incidence of this disease was in adults (38.22%) and lowest incidence in neonates (28.89%).

Maximum mortality was seen in neonates (70%) and minimum in children (17.57%).

3. Incidence and mortality of tetanus in different sexes (Table 3)

Incidence of this disease is higher in males (150) than in females (75). Out of which neonates were having greater no. of males. Male:female ratio (3.64:1). In neonates and children groups female mortality is higher than male but in adults male: mortality (50.89%) is higher than female: (48.57%).
4. **Incidence of tetanus in relation to seasons (Table 4)**

Maximum cases of tetanus neonatorum occurred in rainy season (32 cases out of 65) that is from July to October. Whereas maximum cases of adult tetanus were admitted in winter (40 cases out of 56) that is from November to February.

5. **Incidence and mortality of tetanus in urban and rural areas (Table 5)**

Out of 225 cases, 210 cases (93.33%) were from rural areas. Mortality of rural area was 45.24% and that of urban area 40%.

6. **Incidence and mortality in relation to socio-economic status (Table 6)**

The lower socio-economic status group of patients were having highest incidence of tetanus (55.56%) & highest mortality (56%).

7. **Incidence and mortality in relation to patient's occupation (Table 7)**

Most of the patients were farmers, labourers and students among males and housewives among females. Labourers were having highest mortality (75%).

8. **Aetiological factors and mortality in tetanus (Table 8)**

In children 24 (32.33%) and in adults 42 (48.84%) cases were due to trauma. 24 children (32.33%) were also having otitis media. Highest mortality was found in cases
of traumatic etiology (38.46%) in children and 51.16% in adults. 8 cases of tetanus were having post partum and 3 cases of post abortal etiology out of which 5 and 2 expired, respectively.

9. Instruments used for cutting the umbilical cord in tetanus neonatorum (Table 9)

All the tetanus neonates were delivered at home. Unboiled shaving blade was used in 67.74% cases for cord cutting while in 32.26% cases it was boiled. In 3 cases knife was used to cut the cord.

10. Material applied on umbilical stump in tetanus neonatorum (Table 10)

Mustard oil was applied in 16.92% cases while cow dung ash was applied on 12.31%. No application was done in 67.69% cases.

11. Presenting symptoms and signs (Table 11)

Lock jaw, Neck rigidity and dysphagia were the more common presenting symptoms in all age groups.

12. Cases of tetanus and its mortality in relation to severity convulsions (Table 12)

Mortality was highest in severe convulsive cases (72%) while in mild convulsion only 7.89% cases expired.

13. Cases of tetanus and its mortality in relation to temperature (within 24 hours admission) (Table 13)

Mortality was directly proportional to
temperature. 54.79% mortality occurred in cases having temperature more than 99°F while 66.6% mortality occurred in cases having temperature more than 101°F.

14. **Incidence and mortality in relation to incubation period (Table 14)**

Shorter the incubation period higher was the mortality. 28.45% cases were having incubation period less than 7 days and mortality was 39.60% while 6.62% cases were having incubation period more than 28 days and mortality was 1.99% only.

In 27.53% cases incubation period was not known and mortality in those cases was 21.78%.

15. **No. of cases and its mortality in relation to period of onset (Table 15)**

Cases where period of onset was less than 24 hours were having 73.68% mortality while the cases having period of onset more than 96 hours were having 20% mortality only.

16. **Relationship between duration of symptoms before admission and mortality (Table 16)**

It observed that shorter the duration of symptoms before admission higher the mortality. 63.18% mortality was in cases where duration of symptoms was one before admission while 9.38% mortality was noted where duration of symptoms before admission was more than 5 days.
17. Mortality in relation to grades (Table 17)

Mortality increased as the grade increased. 61.40% and 85.71% case fatality were observed in grade IV and grade V respectively while 5.88% and 12.50% case fatality were observed in grade I and grade II respectively.

18. Mortality in relation to arades and route regimens of T.I.G. (Table 18)

Mortality was lower when approaching intrathecaly. In grade IV and grade V mortality was 100% by intramuscular route while intrathecal route in grade IV and V was having a mortality of 57.69% and 92.80% respectively.

19. Mortality in relation to mode of T.I.G. administration (Table 19)

By approaching intrathecal route of T.I.G. mortality reduced much more in comparison to intramuscular route. In neonates, children and adults intramuscular route of T.I.G. administration provided 100%, 85.33% and 71.43% mortality respectively while intrathecal route provided 64.41%, 11.76% and 48.10% mortality in neonates children and adults respectively.

20. Mortality in relation to dose of T.I.G. given intrathecaly (Table 20)

Out of 225 cases in 146 cases only 250 I.U. T.I.G. was given intrathecaley which showed 43.15% mortality while in 55 cases 500 I.U. T.I.G. or more dose was given
which showed 38.15% mortality. Thus higher dose of intrathecal T.I.C. showed lower mortality rates.
TETANUS NEONATORUM " SHOWING NECK RIGIDITY "
ADULT TETANUS " SHOWING OPISTHONOUS "