

Tetanus Disease: Our ICU's Statistics At Umtata General Hospital 1998-2002

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Abstract

We present a retrospective as well as a prospective study about all patients admitted with the diagnosis of Tetanus Disease between years 1998 and 2002 into de I.C.U. at Umtata General Hospital. Emphasis was put on sex, age, duration stay and outcome.

INTRODUCTION

Tetanus sometimes known as lockjaw is a disease manifested by uncontrolled spasms, sometimes resulting in death specially in elderly and younger patients which depend on the introduction of *Clostridium tetani* toxin into damage tissues along with foreign bodies and or others bacteria. It is not directly transmitted from person to person, punctures, contaminated wounds with soil, dust, burns and so on, has played a role in the development of the disease. The spores produce a neurotoxin (tetanospasmin) which selectively blocks nerve transmission from spinal cord to muscle to go in severe spasm all over the body (main characteristic) that lead the patient to painful muscle contraction, bones fracture, laryngeal spasm which interfere with breathing, muscle tears amount others.^{1,2,3} The incubation period typically between 1-2 weeks, there is not natural acquired immunity and illness with tetanus does not result in immunity neither, however vaccination with tetanus toxoid has been proved to be effective since its introduction in 1920's. Booster immunization to whom has been injured it is advisable for those who the last immunization received was about 10 years or more. Diagnosis is done under clinical picture. The conventional treatment of Tetanus with deep sedation and mechanical ventilation associated with penicillin still the most effective to improve the outcome and reduce mortality, anyway mortality is extremely high.^{4,5,6,7,8,9,10}

Umtata General Hospital is the referral centers for 25 rural hospitals in the Eastern Cape Province of South Africa, the nearest San Barnabas Hospital (30 Km away) the farthest Reitvlei Hospital (225 Km away). With a total of 1149 beds serves a population of 2,4 million approximately. ICU is the

main unit for critically ill and injured patients.

PATIENTS AND METHODS

This was a retrospective as well as a prospective study about all patients admitted with the diagnosis of Tetanus Disease between years 1998 and 2002 into de I.C.U. at Umtata General Hospital Emphasis was put on sex, age, duration stay and outcome.

A total of 11 patients were admitted, the diagnosis was done mainly clinically through the history taking and physical exam,

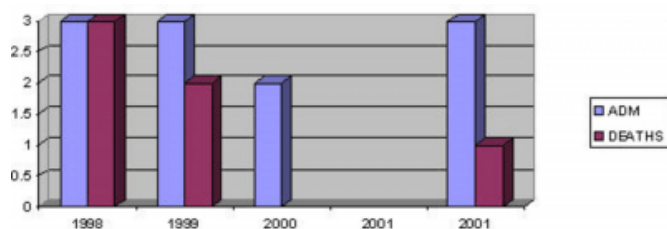
RESULTS

Eleven patients were admitted: 8 males (72.7%) and 3 females (27.3%) with an age average about 14 year for males and 12 year for females, the youngest one a new born and the oldest was 28 years old with a stay average between 2 days and 38 days in the unit.

Others researches (4) showed an stay between 5 days and 15 weeks but included infectious department ward with higher number of male than females. We don't have any isolated ICU's statistic researches to compare because they also include the infectious ward stay.

Figure 1

Figure 1



The complications found were Pneumonia 4 patients (36.3%) electrolytes imbalance 1 (9%) and anemia 3 (27.2%). A total of 5 patients died (45.4%) without significant differences between adult and children. The mortality was very high in those who sustained pneumonia with or without need of mechanical ventilation (75%). Those who survive the disease were recuperated at all without any disability (54.5%). Others complication like bones fracture and heart failure like Cotton C finding(4) was not found in our statistics, however 2 patients die because of cardiac arrested. Our statistics showed higher mortality (45.4%) than other authors (30%) (4)(6)(9) may be related with scanty amount of patients admitted but lower than period 1950-1959 in the USA (12). In general presence of tetanus disease crudely increase during the period 1947-1976 even though some reports are still omitted , so statistics are not accurate . Nonetheless most reports are found from infectious ward and not from ICU's

Figure 2

Table 1

Complications	Cases & %	mortality
Pneumonia	4 (36.3%)	3 (75%)
Electrolytes imbalance	1(9%)	
Cardiac arrest	2	2 (18.1%)
Anemia	3 (27.2%)	

COMMENTS

Management: All patients were isolated in quietness. Ordinary wound toilet was done.

Humana ant tetanus globulin 3000 IU was administered IM to all patients. Tetanus toxoid was given as well as high intravenous penicillin doses. No one of the patients did received vaccination before the disease. Some of them has not idea how the disease was acquired.

Some researches are about the use of Magnesium I.V. with good results(11) we didn't use in our casuistic .

Muscle spasm treatment was general categorized into three groups depending on the severity of the disease in mild, seriously ill and dangerously ill.

Mild cases were considered those with tonic rigidity and neither swallowing nor respiratory problems detected: combination of diazepam 10 mg IV and chlorpromazine 50 – m100 mg IM as well as phenobarbitone 50 – 100 mg IM were given 6 hourly.

Seriously ill were considered those with swallowing difficulty with some reflexes spasm but no major cyanosis episodes. NGT was inserted and sedation as above mentioned; as soon as difficulty in breathing was detected assessment of tracheotomy was done and performed, T piece oxygen administration was considered

Dangerously ill were those who had major cyanotic episodes. Use of relaxant and sedatives plus mechanic ventilator support was provided until no further spasm occurred

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