



CEPHALIC TETANUS: A CASE REPORT

Dr. Shrushti Dalal^{1*} and Dr. Yashesh Dalal (M.B.B.S, M.S General Surgery, M.Ch)²

¹Intern Doctor, GMERS Medical College and Hospital, Gotri, Vadodara, Gujarat, India.

²Consultant Neurosurgeon, Srushtil Hospital, Vadodara, Gujarat, India.

***Corresponding Author: Dr. Shrushti Dalal**

Intern Doctor, GMERS Medical College and Hospital, Gotri, Vadodara, Gujarat, India.

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ABSTRACT

In a minute number of cases of tetanus, a cranial nerve palsy is evident, either as a presenting sign or developing later in the course of the disease. This variant is called cephalic tetanus. Cephalic tetanus is an uncommon form of tetanus defined as trismus plus paralysis of one or more cranial nerves. The most frequently involved cranial nerve is the seventh. It accounts for 1 to 3% of the total number of reported cases of tetanus and has a mortality of 15 to 30%. The incubation period is found to be approximately 1 to 14 days, and nearly two thirds of cases progress to generalized tetanus. The mechanism of the paralysis is not completely understood. Its features have been variously described as comprising causative injury to the head, face or neck, dysphagia, and cranial nerve palsy with or without signs of more generalized tetanus. Treatment involves debridement of wounds, administration of penicillin and tetanus immune globulin, aggressive supportive care, and initiation of active immunization. We report the case of a 20 year old tribal Asian male, who presented with cranial tetanus which progressed to generalised tetanus.

KEYWORDS: Tetanus, Cephalic Tetanus, Tetanospasmin, Facial nerve palsy.

INTRODUCTION

Cephalic tetanus, an unlikely condition, differently known as kopftetanus and tetanus hydrophobicus is a subtype of tetanus in which cranial nerve palsy often precede trismus. Currently, the term cephalic tetanus is applied to those cases which present as paralysis or paresis of one or more of the cranial nerves as a prominent symptom, together with more or less well recognised symptoms of tetanus, generally confined to the region of head and neck, though at times involving the entire body. The severity of tetanus is usually inversely proportional to the duration of the incubation period, generally found to be around one to fourteen days, periods of seven days or less carrying a grave prognosis.

CASE REPORT

A 20 years old tribal male, unimmunized, residing in remote backward areas, presented with history of head injury due to road traffic accident 3 weeks ago. He was reported to be conscious, alert, ambulatory after the injury with no history of vomiting, seizures, altered sensorium and any major deficits. He had a large contused lacerated wound on right side of skull and he was taken to a local health facility whereby the wound was sutured and he was discharged with some oral medications. He was completely normal for next twelve days and later he developed fever and abnormal

behaviour. His condition gradually worsened and he developed shrill voice, inability to swallow, frothing at mouth, stiff limbs, tight fists, inability to open mouth and respiratory difficulty. He was again taken to the local health facility where by he was advised to go to a higher centre. He had no major past medical history and had no familial history. On examination, he was conscious, but obtunded with feeble response to calls and commands. He had a toxic look with obvious respiratory difficulty. He was febrile with 102 F temperature, tachycardia with 120 pulse, BP 90/60 mmHg and oxygen saturation of 88% on room air. He was dehydrated with sunken eye balls and thready rapid pulse. He was having constant frothing at mouth and was making shrill sounds instead of clear phonation. He was unable to open mouth at all with severe trismus. He had typical risus sardonius. On stimulus or on trying to move limbs on command he was going into severe body spasms with typical opisthotonus. He had left facial palsy, severe rigidity of whole body and obtunded sensorium. His respiratory system examination revealed extensive bilateral crepitations with tachypnoea. His central nervous system and per abdominal examination was unremarkable. On local examination, a large right frontoparietal scalp wound was noted which was loosely sutured but badly infected with pus, debris, dirt and probably cow dung.

He was clinically diagnosed as a case of cephalic tetanus and immediate resuscitative treatment was started. He was stabilized with respiratory toilet, airway clearance, suctioning, oxygen and rehydration with crystalloids. He was taken to operation theatre and a tracheostomy was first performed to ensure safe respiration. Next, the wound was opened and anaerobic and aerobic cultures were first collected and then a thorough debridement with antiseptic lavage and removal of dirt, debris, cow dung foreign body etc was done and the wound was resutured. Blood investigations were collected which revealed grossly deareanged liver enzymes and elevated total count. Other blood reports were normal and a single shot of injection Benzathin Penicillin 12 lac IU was given and patient was put on Injection Metrogyl 500 mg Iv TDS for 12 days. Along with this, other broad spectrum cefuroxime 1.5 gms TDS antibiotic course was given for 12 days. Patient was hydrated well with crystalloids and vital signs were corrected. Ryles tube was inserted and tube feeding was established. A diazepam drip was started in optimum dose along with injection Robinox round the clock to counter spasms. Antiepileptic clobazam 10 mg twice a day was administered and NSAID, paracetamol was administered as per need. Proton pump inhibitors were added and other symptomatic care was given. Oxygen and intensive respiratory care was continued. General aggressive nursing care was administered. The culture reports yielded no growth and repeat blood counts and liver profile gradually showed improvement to normalcy.

After 48 hours, patient started stabilizing and by two weeks of antibiotics he was completely normal with minimal trismus, normal limb movements, and normal vital signs. He was able to ambulate and eat orally and gradually Ryles tube and tracheostomy was weaned off. At three weeks, on discharge, patient was totally cured with normal vital signs, normal general and systemic examination, able to eat, drink and ambulate with normal phonation and normal interaction.

DISCUSSION

Clinical tetanus consists of four symptomatic types: Generalized, Local, Cephalic and Neonatal tetanus. Cephalic tetanus, which is a subtype of tetanus, is a rare disease, where one or more cranial nerves especially seventh, and nerves supplying the extraocular muscles may be involved. The incidence of cephalic tetanus ranges from 0.8% to 2.9%.^[1] Patients generally have a history of trauma,^[1,2] tooth extraction,^[3] or chronic tympanitis. Trismus may be preceded by an infranuclear type of seventh cranial nerve palsy and may be misdiagnosed as Bell's palsy. It supersedes wounds of face and head, otitis media, local injury or may be no history of trauma. Cephalic tetanus presenting with cranial nerve palsy is categorized as severe or very severe since approximately two-third of cases progress to generalised tetanus.^[1] Those cases in which there is no generalised progression may have good prognosis and cranial nerve palsy associated with tetanus is not

necessarily of bad prognostic significance.^[6,5] Recovery of cranial nerve palsy within about two months is usual if the patient survives the early illness.^[4] Site of lesion and nature of the pathology in cephalic tetanus is still not known. It is generally believed that cranial nerve nuclei are damaged.^[4]

CONCLUSION

The patient in the case depicted above was a young male who was susceptible to tetanus due to non-immunization. In a patient presenting with facial nerve palsy in the presence or absence of any history of trauma, a differential diagnosis of cephalic tetanus should always be kept in mind. Early recognition is of prime importance, since successful treatment depends on the timely administration of immune globulin. Furthermore, the case reminds us of the importance of immunization as the most effective intervention against tetanus.

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