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Cephalic Tetanus – Paying the Price of Forgotten Injury in the Past

(Case Report)

Author
Uzma Firdaus
MD, Assistant Professor, Dept of Pediatrics, Jawaharlal Nehru Medical College, A.M.U, Aligarh,UP, India
Corresponding Author
Uzma Firdaus
Dept of Pediatrics, J.N.Medical College, A.M.U, Aligarh, India
Mobile No: +91 9837122711, Fax no +91 571-2720030
Email: *druzmafirdaus@gmail.com*

ABSTRACT
Cephalic tetanus, a form of localized tetanus, can be defined as trismus plus involvement of one or more cranial nerves. Cephalic tetanus occasionally occurs as a sequel to otitis media or craniofacial injuries. Here we report a case of cephalic tetanus in a 6 year old boy with right facial nerve palsy, but no known risk factors for the development of tetanus. The child responded favourably to the timely medical management. Summing up, even though prompt medical management may improve the outcome of this life threatening disease, timely immunization can certainly prevent its occurrence.

Keywords: *cephalic tetanus, facial nerve palsy, child*

INTRODUCTION

Tetanus is a vaccine preventable disease that is caused by neurotoxin produced by Clostridium tetani. It continues to be an important cause of morbidity and mortality in children, especially in developing countries [1-3]. It can manifest as generalised or localized forms. Cephalic tetanus is a form of localized tetanus defined as trismus plus involvement of one or more cranial nerves [3]. It usually occurs as a complication of acute or chronic draining ear or trauma to the head and neck area.

We report an unusual case of cephalic tetanus in a 6 year old boy following a probable forgotten injury. Even though the child progressed to generalized tetanus; eventually, there was a complete recovery. The rarity of the clinical presentation and its favourable outcome even as generalized form is the reason for its reporting.

CASE REPORT

A 6 year old boy presented to the emergency department with complaints of fever for 6 days, inability to open mouth for 4 days, and generalised spasms for 1 day prior to presentation. No previous history of injury to head and neck region or of otitis media was found. Complicating the scenario even further, he had not received any tetanus vaccination due to lack of parental unawareness.

At presentation, he was a conscious but agitated child, and the striking features were trismus and neck stiffness. He also had frequent stimulus sensitive spasms of facial muscles and extensor posturing. Other notable finding was right facial nerve palsy of lower motor neuron type with no involvement of any other cranial nerve. There were no features of autonomic instability as well as systemic examination was unremarkable. The otological assessment and evaluation of head and neck area for evidence of trauma or local infection revealed no abnormal findings. However, a strong clinical suspicion on account of stimulus sensitive spasms led to the clinical diagnosis of cephalic tetanus being made. The child was started on injection penicillin and injection diazepam as intermittent boluses and also received a dose of tetanus immunoglobulin.

The initial septic screen done for the evidence of infection was normal, and his renal functions and chest x- ray were unremarkable. CSF analysis did not reveal any abnormality suggestive of meningitis. On second day of admission, he developed worsening of generalised spasms which were both spontaneous and stimulus sensitive. Diazepam was titrated and later, injection phenobarbitone was started in recommended doses which gradually controlled the spasms. The child was nursed in a quiet secluded room. Meticulous care of bowel, bladder and back was taken. The secretions were carefully handled and asepsis was ensured. The child responded well to the treatment, his spasms gradually decreased and nasogastric feeding was started on day 8 of admission. Antibiotics were switched to oral and as the frequency of spasms decreased, nasogastric feeding was weaned off and supervised oral feed was started and maintained.

He was discharged on day 16 of admission with complete control over spasms and recovery of the facial nerve. Parental counselling for routine immunization was done and primary immunization was started. After 1 week of discharge, he was followed up in OPD with no occurrence of any breakthrough spasm.

DISCUSSION

As Clostridium tetani spores are omnipresent, Tetanus can certainly be touted as a global health problem. The disease occurs in unvaccinated or inadequately immunized persons and is caused by a neurotoxin produced by Clostridium tetani, which usually gains entry into the body through contaminated wounds. [1]

Tetanus may occur globally, but it is more common in warm and damp climates with soil rich in organic matter. Manure treated soils are particularly contaminated with spores which are widely distributed in the intestines and faeces of many non-human animals such as horses, sheep, cattle, dogs, cats etc. The spores may remain dormant there till they find a condition conducive for their activity.

The characteristic symptoms of the disease are intermittent stimulus sensitive tonic spasms of voluntary muscles and spasm of the masseter accounts for the name lockjaw. Cephalic tetanus is a rare form of localised tetanus that is characterised by trismus and involvement of cranial nerves. Facial nerve is the most commonly involved nerve with cephalic tetanus. [2]

Even though the early reference of the condition dates far back into history, it is becoming less common in today's world. Cephalic tetanus occasionally occurs as a sequel to otitis media or craniofacial injuries.[3-5] About two third of patients with cephalic tetanus are likely to progress to generalised tetanus. The development of generalized tetanus generally indicates a poor prognosis.

The above case presented with trismus and facial spasms. As expected and usually reported, there was no evidence of draining ear or head wound. However, tetanus is known to follow trivial or even in apparent or long forgotten wounds. Since C. tetani spores cannot be eliminated from the environment, this case emphasizes on the importance of routine immunization and proper treatment of wounds and traumatic injuries for tetanus prevention.

Recovery of cranial nerve palsy is complete if the patient survives the illness as happened in our patient. As already known, the mortality in tetanus is determined by severity of generalised spasms with cranial nerve palsies having little prognostic significance.[6] Though our case did progress to generalised tetanus but the outcome was good probably due to prompt intervention.

Tetanus is still an important cause of morbidity and mortality; especially in resource poor countries of the world. Cephalic tetanus is a serious form of tetanus with unfavourable prognosis. Rigorous efforts to improve awareness among the masses and to strengthen immunization coverage are required to control this life threatening disease. Routine immunization of all eligible children as well as booster vaccination at appropriate time is an effective strategy for the prevention of this potentially life threatening condition.

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