Case Report

Accidental Strangulation While Playing with Hammock in a Child

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Abstract

In children, strangulation is a fatal injury due to asphyxia, a terminal event of partial or complete hanging. Homemade hammocks are routinely used as a cradle which is potentially dangerous. We are hereby reporting a 12-year-old female with accidental strangulation occurring as a result of swinging on a hammock made of saree and also in a view to educate the public about the hazards of using homemade hammocks.

Keywords: *Accidental, children, homemade hammocks, strangulation*

Introduction

Hanging is an important cause of homicidal and suicidal injury in adults, but in children, it is usually accidental leading to death due to asphyxia as a result of partial or complete hanging.[1] This case is unique as partial hanging occurred as a result of swinging in a hammock made from a saree, which is a routine way of putting a baby to sleep in some households. Few similar incidents have occurred while children play with this hammock.[2,3] In rural parts of Karnataka, hammocks are routinely used as a cradle which is potentially dangerous, and we are reporting this case in a view to educate and enlighten the public about the hazards of using homemade hammocks.

Case Report

A 12-year-old girl was brought to the hospital with a history of loss of consciousness of 2-h duration. The girl was apparently standing and swinging on a hammock made of saree. She lost her balance while swinging and the saree twisted and got wound tightly round her neck. She was found unconscious and unresponsive by her mother, with her body being suspended by the saree and her two feet being in contact with the ground and her hands were lying limply by the sides. She was immediately rushed to the hospital which took 2 h to reach and during which time she was unconscious and unresponsive.

There was no history of convulsions, vomiting, or bluish discoloration of lips or peripheries. History of respiratory distress was present which developed on the way to the hospital.

On examination, she was in altered sensorium (Glasgow coma scale 6/15). Her vitals were as follows:, respiratory rate 54/min, heart rate 118/min, blood pressure 100/60 mm of Hg, CFT <3 s, and oxygen saturation 80% in room air.

A faint ligature mark on the right side of the neck was seen. Her pupils were equal and reactive. Cardiac and respiratory examinations were unremarkable. Central nervous system examination showed the increase in tone in all limbs with brisk reflexes and plantar response was flexor, with no focal neurological deficits.

She was immediately ventilated in view of labored breathing and decreasing saturation. She was started on injection ceftriaxone, injection dexamethasone, and injection fosphenytoin. A medicolegal case was registered and foul play was dismissed.

Investigations

Her hemoglobin was 12 g/dl, total leucocyte count was 15,560/cumm, platelet count was 2.8 lakhs/mm^3, serum sodium 136 mEq/l, potassium 4.1 mEq/l, blood urea nitrogen 25 mg/l, serum creatinine 0.9 mg/l, blood sugar 184 mg/l, and arterial blood gases were normal. Her computed tomography brain and spine were

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normal. Electrocardiography and fundus examinations were normal. Mechanical ventilation was continued for 2 days. After 48 h, the child self-extubated, her ABG was normal, and she was maintaining saturation with 5 L of oxygen. She later developed fever, and her chest X-ray revealed bronchopneumonia. Given this, the antibiotics were changed to injection piperacillin-tazobactam and injection linezolid. Culture of endotracheal tube grew Staph aureus, 10^5 CFU/ml and nonhemolytic Streptococci 10^5 CFU/ml which were sensitive to the above antibiotics, and they were continued for 10 days. Her fever reduced, the voice became normal, neurological examination was also normal, and she was discharged on oral phenytoin.

Discussion

Hanging is a form of strangulation that involves suspension by the neck.[4] Hanging can be classified into either complete or incomplete.[4] Incomplete hanging implies that some part of the body is touching the ground, and the weight of the victim is not fully suspended by the neck.[4] Hanging can also be classified by intent (homicidal, suicidal, autoerotic, and accidental).[4] In our case, it was incomplete and accidental.

Pathophysiological theories which account for the outcome are venous obstruction, leading to cerebral stagnation and hypoxia.[4] Other mechanism being carotid compression which leads to low cerebral blood flow and vagal collapse., which in turn, leading to increased parasympathetic tone.[4]

Accidental strangulation is a potentially fatal injury in children, and various case reports are now increasingly found.[1,3] In a recent study of 28 cases of pediatric and adolescent strangulation from India, 7% of cases were accidental.[5] In a study by Feldman and Simms, 8.6% cases of accidental strangulation were reported due to clothing entanglement.[6] As also mentioned in our case, the cloth (saree) was the culprit. Hammock made from sarees, bedsheets, and ropes are frequently used in India, and case reports of accidental strangulation in a child with these are reported in India and elsewhere.[1,7] Two cases of accidental strangulation in a child due to homemade hammock resulting in death have been reported.[2] In our case, homemade hammock resulted in accidental partial hanging and we could revive the child. Contrary to this, most of the pediatric and adolescent strangulation deaths were reported as homicides in India.[2,5] A similar case of accidental partial hanging has been reported with the saree hammock and the child had seizures and neurological deficits which was unlike in our case, wherein such complications were not present.[3] However, our case did not have seizures, fracture of vertebra, or spinal cord injury. In a 10-year retrospective study done by Davies *et al*., of 41 children, the ultimate outcome was highly predicted by whether the patient was found with a palpable pulse resulting in complete recovery and which is the same scenario with our patient.[8] All these 41 cases did not have cervical vertebral fractures or spine injuries as was the situation in our case as well.[8]

Garros *et al*. reported two cases of accidental strangulation with intravenous tubing occurring in the hospital.[9] Nonintentional strangulation in children is a widely recognized risk as a result of the vulnerability of their airway to occlusion by relatively low pressures.[9]

Management of these cases needs prompt resuscitative efforts such as maintenance of airway, circulation, and effective treatment of hypoxic seizures.

Conclusions

In our case, saree was used in a homemade hammock which resulted in accidental strangulation. Therefore, we should create awareness of the dangers of such homemade setups and advise parents to keep a close watch at all times to prevent such mishaps and to use safer cradles.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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