

CASE REPORT

Life threatening cut throat injury due to kite string

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Abstract

Kite flying is a popular sport in Indian subcontinent. The string or manjha, used for flying kites is coated with ground glass and glue, which makes it very sharp. This abrasive string can give rise to various types of injuries ranging from minor cuts to life threatening injuries and cause severe disabilities and death. The authors report a complicated case of cut throat injury due to kite string "manjha" and its surgical management.

Introduction

Kite flying is a popular traditional winter sport in India, Bangladesh and Pakistan. The kite fliers not only fly their kites to dizzy heights but also compete to out maneuver and cut the strings of other kite fliers. The kite string is coated with ground glass and water soluble paper glue to give it a sharp edge. Various types of accidents occur due to kite flying viz: injuries to fingers and hands while coating the threads with ground glass, fall from heights during kite flying, lacerated injuries to the head and neck region and stray string injuries to motorcycles and bicycles riders.^{1,2}

According to the ancient and medieval sources, kites were first invented in China about 2000 years, ago and were used for measuring distances, testing the wind, lifting men to spy on the enemy camp, signaling and communication for military operations.³ In Japan people fly colourful socks shaped like carp fish, believing it will bring them good fortune. Farmers in Many Asian countries, fly kites to scare away birds that eat the crops. In Indian subcontinent kite flying is a sporting activity.⁴ After its introduction into India, the kite further evolved into the fighter kite, known as the patang, where thousands are flown every year on festivals.

The Kite is made of paper or cloth with a bamboo frame. It is flown with the help of string or thin wire. Injuries occur during kite flying and while coating the string with ground glass. While flying the kite, the kite flier using his skills will try to cut the string of the competitor with glass-spiked

string. This string is called 'manjha' and is prepared by coating the string with ground glass and paper glue. This coating of string is called 'creol' in Brazil.⁵ The string is coated multiple times to make it razor sharp.

The quality of the string is considered an important factor in determining the victor i.e. ability to cut the opponent's kite string. The authors report a rare case of severe cut throat injury due to kite string which happened while the patient was driving a motorcycle.

Case Report

A 41 year old male patient while riding his motorbike, a stray sharp kite string got entangled around his neck. He felt a sharp excruciating pain in his neck and noticed blood from the injured site. On arrival to Emergency department at Apollo Hospital, he was conscious, oriented, and pale looking and had respiratory stridor, which was progressively increasing. His pulse rate and BP were normal. On examination of the neck, there was a clean lacerated wound in the neck, which was sutured in another hospital. There was a large boggy swelling in the anterior compartment of neck, clinically appeared to be a tension haematoma. Since he was in respiratory distress with progressive stridor. the neck wound sutures were removed and patient was intubated. (Figure 1) An urgent plain CT scan of the neck revealed a large haematoma in the anterior compartment of neck, which was compressing and displacing the trachea to the left. (Figure 2) He was taken to the

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OT and the neck wound was explored under GA. The neck wound size was about 14 cm across anterior border of right sternocleidomastoid



Fig. 1: Neck wound due to kite string injury muscle and extending to the left. On exploring the wound, a large haematoma was seen in the anterior compartment of neck below the strap muscles compressing the trachea. The right sternocleidomastoid muscle was found to be



Fig. 2: CT scan showing large haematoma in the neck.

lacerated in the mid segment. The right external jugular vein (EJV) and superior thyroid artery (STA) were lacerated; the blood vessels were explored and ligated. The haematoma was evacuated completely, the right SCM was repaired with 3 '0' vicryl. There was an incised wound on the thyroid cartilage but it had not penetrated the

airway. The neck wound was closed in layers. The patient was discharged on day 7 after a check flexible fiberoptic endoscopy. At one month follow up, the patient's neck wound had healed well, voice is normal and he has no residual sequelae.

Discussion

Various types of injuries occur while flying kites. The injuries usually occur in fingers and hand while preparing the string. Also during flying the sharp string may cause finger injuries. Other injuries are caused by the kite flier falling from the rooftops since he is looking at the sky while flying the kite or when trying to catch the free drifting kites. The stray kite drags the string across the neck and limbs of motorcycle and bicycles riders causing serious and fatal injuries. Injuries sustained by the two wheeler rider are severe as compared to the pedestrians as the severity of injury depends on both the speed of the vehicle and moving kite string. Sometimes electrical injuries have been reported while flying in the rain. A rare complication due to kite string injury is development of pseudoaneurysm of the injured vessel.⁸

Management of neck injuries should begin in the Emergency department. If there is respiratory distress or profuse hemorrhage, resuscitation should be immediately done to secure the airway with intubation or tracheostomy and stop the haemorrhage. Once the patient is stabilized an urgent CT scan of the neck or portable Chest X ray may demonstrate further injuries viz. shift or compression of trachea, laryngeal or pharyngoesophageal injury, vascular injuries or subcutaneous emphysema.^{9,10} A contrast swallow can be done to rule out oesophageal perforation. The timing of neck exploration is very important. If there is increasing respiratory distress due to a tension haematoma or if there is any clinical evidence of uncontrolled haemorrhage then urgent neck exploration should be done. The usual policy is to explore the neck at the time of tracheostomy and perform endoscopy. Our patient was intubated followed by neck exploration and direct laryngoscopy. No tracheostomy was done.

Intraoperative wound management is same as most other traumatic wounds. Care should be taken to remove any residual foreign body. The wound should be thoroughly irrigated with antibiotic solution. Hematoma should be evacuated and wound should be explored for vascular injuries. All the major vessels in the vicinity of the wound should be dissected and if

found to be injured then it should be ligated. Any injury to the pharynx, esophagus or larynx should be anticipated depending on the zone of injury and if found should be repaired. Tracheal injury should be managed with an end to end anastomosis. It is always advisable to keep a drain in the neck for at least 72 hrs and patient should be kept in ICU intubated for 24 to 48 hrs. Such cases should be treated aggressively with broad spectrum antibiotics and generous pain medications. In the postoperative period a check fiberoptic endoscopy should be done to check vocal cord mobility and to rule out any visceral injury. The patients should have a long term follow up for other sequelae e.g. nerve injuries, swallowing problems, fistulas and failed decannulation.

Although the injuries make headlines in local newspapers but is grossly under reported in literature. The present case is of an innocent looking thread causing grievous injury to the neck. In view of the high incidence of kite string injuries, the government should have legislation to prevent such injuries. Few suggestion include that flying kite should be permitted in only designated open play fields. Flying kites should be banned from areas near main roads and highways. There should be social awareness about such injuries secondary to kite flying and social counseling.

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