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Case Report

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### Manja injury: turning festivals into mishaps

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#### ABSTRACT

Kite flying is a popular traditional sport in India, Bangladesh and Pakistan. The thread or “manja” used for flying kites is made up of glass powder, glue and lethal chemical and metallic substances, which make it very sharp. The severity of the injury depends on these abrasive materials used for making the thread. Presenting a case report of 15-years-old male patient who sustained a clean cut, deep incised wound in zone II, exposing the fat, muscle and actively bleeding artery was managed with wound exploration and ligation of the involved artery.

**Keywords:** Kite flying, manja, neck injury

#### INTRODUCTION

About 3000 years ago and kites were first invented in China and they were used for testing the direction of the wind, lifting men, signaling, measuring distances and communication for military operations. The Wright brothers had also used kite as an instrument for the development of the first airplane in the late 1800s [1]. Various countries use kites to portray their variable sentiments. In Japan, people fly colorful socks shaped like carp fish, believing that it will bring them good fortune. Farmers in many countries fly kites to scare away the birds that eat the crops. There are several international festivals, which gather the kite-flyers from all over the world to display their extraordinary kites.

Kite flying is a common and well-liked game in India. It has a traditional significance in various parts of India for hundreds of years. In the state of Punjab, Lohri, a popular folk festival commemorates the end of winter and is celebrated with bon-fire, dance and kite flying. Kites are flown as leisure but some times it is more like a battle in which opponents try to bring down each other's kite by snagging the thread of the kites [2]. These loose threads are the main culprit for the injuries [3].

The kite is made of paper or cloth with a bamboo frame. It is flown with the help of a thread or a thin wire. These threads are coated with ground glass powder and water-soluble glue called “manja”. Sometimes the thread is also made of chemical and metallic substances making them as

sharp and lethal as possible [3]. Use of such strings, especially in India, has made the traditional fun of kite flying deadlier, and now it has become the cause of severe injuries, disabilities and deaths each year.

As great as the sky donning a vibrant look in different size, shapes and colors appears, kites also have a detrimental affect on our society [1]. Kite flying is related to various types of injuries; injury sustained like falls during the kite-flying, electrical injuries from high-tension currents flowing in the exposed wires on the streets, injuring causing road traffic accidents and affecting the bystanders, especially the ones riding two-wheelers [2]. Kite flying is causing severe distress to the society and is being underreported. This case is being reported to highlight the enormity of injuries caused by these vibrant kites.

## CASE REPORT

A 15 years old male was riding a two-wheeler on the street when a kite thread entangled around his neck leading to a laceration over the left side of the neck. The patient presented to Emergency Department, Christian Medical College, Ludhiana, 15 minutes after the injury.

On arrival to Emergency Department, patient was managed using Advanced Trauma Life Skills (ATLS) protocol. On assessment, the airway was patent and cervical collar was applied to stabilize the spine. In, breathing, the respiratory rate was 18/min, bilateral air entry was equal, chest was clear on auscultation and chest compression test was negative. The patient maintained saturation (SpO<sub>2</sub>) of 99% on room air. In circulation, pulse rate was 80/min and blood pressure was 120/70mm Hg. Pelvic compression test was also negative. The patient's GCS score was 15/15 with bilateral pupils normally sensitive and reactive to light. Patient was

further exposed and hypothermia was prevented. On abdominal examination, it was soft, non-tender and bowel sounds were present. Chest X-ray was also normal. There was a 4 cm transverse laceration over the anterior and left side of the neck, at the level of thyroid bone (zone II of the neck). There was active ooze present. A linear abrasion was also seen extending from the laceration to the right sternocleidomastoid. There was no subcutaneous emphysema noted and the laryngeal framework was normal.

Patient was hemodynamically stable and CECT Angiography Neck was done. On imaging, the trachea was normal in contour with no air leak. There was a hematoma present in left para-tracheal location with pooling of contrast and extravasation of contrast in arterial phase images at the level of hyoid on the left side. Features were suggestive of arterial injury likely from superior thyroid artery branches. The blood 13.4gm/dl, TLC-5400/mm<sup>3</sup>, urea/creatinine- 21/0.49gm/dl and Na/K- 134/3.9mEq/l

The patient was shifted to operation theatre and local wound exploration was done. One of the branches of superior thyroid artery was found to be actively bleeding. However, the strap muscles and left sternocleidomastoid were intact. The artery was further ligated and complete hemostasis was achieved. A corrugated drain was placed and the wound was closed in layers (Fig. 1, 2).

On post-operative day 1, the patient was comfortable and afebrile. Pulse rate- 80/min, respiratory rate – 18/min and blood pressure – 120/80 mmHg. The drain output was nil on post-operative day 1. The patient was allowed liquid diet orally on post-operative day 1. The drain was removed on post-operative day 2. Patient was allowed solid diet and was discharged on post-operative day 2.



**Fig. 1: Ligation of the branch of superior thyroid artery**



**Fig.2: Primary closure with drain placed**

## DISCUSSION

Kite flying is a great source of entertainment in countries like India, Pakistan, Bangladesh, and Brazil etc [1]. It is associated with a wide range of injuries ranging from simple cuts to grievous injuries and trauma to the head and neck. According to a case report in Pakistan in 2006, 450 people have been killed over past 10 years during kite flying festival involving both teenagers and adults [2]. The commonest site of injury to the motorcyclists, cyclists and pedestrians including both young and elderly is the neck injury. A two-wheeler rider is more prone to injuries than a pedestrian, as the thread is not easily visualized by the rider and the speed of the vehicle also matters [2, 5, 6]. They sustain injuries from wandering kite-threads or kites, unaware of their surroundings. Wearing helmets can prevent injuries to the face so neck injury is more common, although in our case report the teenager was not wearing a helmet.

Most of the neck trauma includes lacerated wounds, and in few cases, incised internal structures like muscles and arteries of the neck. Carotid artery injury is the gravest of all [3]. In a case series done in Brazil by Ventura et al. [4], 13 patients were suffering from cervical injuries due to kite string, out of which 12 patients had Zone II injury while only one patient had Zone III injury. Only one patient's airway was compromised and he was intubated whereas platysma breach was found to be present in all. The study revealed the most common non-fatal injuries are jugular vein injury (6 out of 13 patients), laryngeal Injuries (6 out of 13 patients) and tracheal injury (1 out of 13 patients). Carotid injury occurred in only one

patient who eventually died. All wounds were explored and venous injuries were managed using ligatures while respiratory tract injuries were primarily repaired. Tracheostomy was done in three patients.

In our case report, the patient suffered Zone II injury with platysma breach. Wound exploration showed injury to a branch of superior thyroid artery. However, the strap muscles and left sternocleidomastoid were intact. The artery was primarily repaired and complete hemostasis was achieved. The patient did not suffer any laryngeal injury.

In India, the Supreme Court has banned the use of 'manja' in 2017 due to the use of glass and metal powder, posing a threat to the environment. National Green Tribunal Act, 2010 (NGT) is an Act of the Parliament of India, which pertains to the environmental issues. The tribunal issued notices to all state governments and sought their response on the plea of animal rights body 'People for Ethical Treatment of Animals' (PETA) on the matter. In its petition, PETA contended that 'manja' posed a grave threat to humans and animals as every year a number of deaths were caused by it [10]. PETA also had averred that minor children were engaged in the manufacturing of 'manja', which caused respiratory problems as they inhaled harmful substances that are extremely detrimental to their health.

Kite thread injuries also pose a huge threat when it came into contact with overhead electric wires. As the 'manja' is coated with glass, metals and other sharp material, these threads act as good conductors of electricity, increasing the probability

of detached manja thread stuck in power lines, electrocuting kite flyers and pedestrians coming into contact with these strings. In a case report by Wankhede et al. [2], a 25 year old died while trying to catch a cut down kite having thin copper wire as its thread. The copper wire touched an uninsulated power line transmitting alternate current of 240V at 50Hz to the victim. In another study by Tiwari et al. [7] showed six pediatric patients suffering from electrical injury caused by kite flying.

Kite flying injuries are making headlines in the newspapers but are under reported in literature. The present case is of an innocent 15 years old who suffered grievous injury to the neck due to thread of the kite. In a news article published in India, a person in Mumbai sustained a rupture of the voice box<sup>[8]</sup> and another person died in Chennai due to

kite string injury of the neck.<sup>[9]</sup> Both victims were riding motorbikes.

## CONCLUSION

Kite flying injuries are preventable and hence public awareness plays a major role. The kite flyers should wear gloves and fully covering their bodies with clothes. Flying kite should be permitted in only designated open play fields. Flying kites should be banned from areas near main roads and highways, telephone and electric cables. There should be social awareness about such injuries secondary to kite flying and social counseling. The government should also have a legislation to prevent such injuries.

## REFERENCES

- [1]. Mehmood N, Khwaja ZH, Ramazan S, Quddus A; Kite-flying associated injuries in Rawalpindi. *Ann Pak Inst Med Sci.*, 6(2), 2010, 116-9.
- [2]. Wankhede AG, Sariya DR. An electrocution by metal kite line. *Forensic Sci Int.*, 163(1-2), 2006, 141–143.
- [3]. Wankhede AG, Sariya DR; Manja- A dangerous thread. *J Forensic Leg Med.*, 15(3), 2008, 189–192.
- [4]. Ventura J, Hirano ES, Fraga GP; Glass-coated kites and cervical injuries: a serious threat to children and adults. *Clinics (Sao Paulo)*. 66(5), 2011, 923–925.
- [5]. Kyriacou DN, Zigman A, Sapien R, Stanitsas A; Eleven-year-old male with high-voltage electrical injury and premature ventricular contractions. *J Emerg Med.*, 14(5), 1996, 591– 597.
- [6]. Meza-Ortiz F, Rojas-Solís MB, Noriega- Zapata PA; Quemaduras eléctricas en niños. Reporte de tres casos relacionados con papalotes. *Revisión de la literatura. Gac Med Mex.*, 136(4), 2000, 373–377.
- [7]. Tiwari VK, Sharma D; Kite-flying: a unique but dangerous mode of electrical injury in children. *Burns*, 25(6), 1999, 537–539.
- [8]. Youth hurt in kite-string mishap out of danger, *expressindia.com/Express news service*, 2008. Boy dies after throat slit by kite string. Article from: United Press International, article date: 2001.
- [9]. WHO. (a). Injury: a leading cause of the global burden of disease, 2000. Geneva: WHO, 2002.

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