



Kite String (Manja) Injury: Rare Presentations of Common Entity Leading to Disability

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Abstract

Background: Achilles tendon is strongest tendon of human body as modified by nature to wear and transmit whole weight of body to the ground. It is superficial in location and susceptible to stress so, it is very prone for injury. As the age progress it became more prone to spontaneous rupture due to decrease blood supply and lack of physical activity and exercise.

Material and Methods: A 14 years old male presented to our emergency unit at King George Medical University, Lucknow, India, with inability to walk and inability to wear weight over his left foot and 22 year old female unable to walk on left foot which was injured/cut with a kite string.

Conclusion: Kite flying and playing is a common sport activity in old cities of India, Kite string is specially designed thread which is coated with powdered glass. In Indian subcontinent very grievous injuries like injury to neck, face, nose and hand are commoner but here we report a case of Achilles tendon injury due this Kite String. To best of our knowledge a very few cases are reported in literature. In this case report we also describe the management of such type of injuries.

Keywords: Achilles Tendon Injury; Injury Due to Kite String; Achilles Tendon Repair; Manja Injury

Introduction

The Achilles tendon is the thickest and strongest tendon in the body arising from the confluence of the gastrocnemius and soleus tendon [1]. The Achilles tendon injury can be acute and chronic. Commonest age of presentation is middle aged people who occasionally involved in sports activities and athletics. Being strongest tendon of body the rupture and laceration of Achilles tendon is quit rare. But it is the most frequently ruptured tendon in lower limb; and accounts for approximately 20% of all large tendon injuries [2]. Acute rupture resulting from the direct trauma are reported rarely, commonest reported cause being secondary to slip on ground with sudden planter flexion while jumping or

running on the uphill. Direct injury from the Kite String is a very rare cause of Achilles Tendon cut injury [3,4]. Kite Strings are commonly called as Manja [5], employed for kite flying in India, Pakistan, Bangladesh, Afghanistan and China, are abrasive strings made by gum, color and especially coated with powdered glass [6]. China employed much powerful and dangerous kite string. The management of this injury need special attention in regard to early repair and infection prevention and early assessment and repair of neurovascular bundles if involved. Here we are reporting a case of Kite String injury and its management. We are presenting a series of 6 patients who have got injuries with kite string/manja leading to loss of productive days from normal life cycle (Table 1).

S. No.	Age (years) *(M = 14.6 Years)	Sex	Body Part Involved	Management	Anesthesia	Total duration of hospital stays *(M = 5 Days)	Total duration of return to work *(M = 65 Days)
1.	14	M	Left Tendo-Achilles Region injury	Primary repair of tendon	SA	14 days	6 months
2.	5	M	Right side neck laceration	Primary repair	GA	5 days	1 months
3.	25	M	Right ring finger avulsion	Groin flap cover	LA	7 days	3 months
4.	22	F	Left great toe laceration	Primary repair	LA	1 day	1 month
5.	1	M	Root of the nose laceration	Primary repair	GA	2	15 days
6.	21	M	Right Index Finger laceration	Primary Repair	LA	1	45 days

Table 1: Demographic data of patients.

Cases

Case 1

A 14 years old male presented to our emergency unit at King George Medical University, KGMU, Lucknow, India, with mother complaints of inability to walk and inability to wear weight over his left foot, which was injured/cut with a kite string while he was riding his bicycle, and entangled in a kite string on the roadside. The boy presented with a freshly lacerated wound over the posterior aspect of left ankle region. After proper washing, cleaning and assessment of neurovascular status the tendon was repaired primarily from our side. After exploration we assess the posterior tibial artery and vein, likely it was not injured. After dressing a POP slab was applied over the dorsum in planter flexion for a period of 6 weeks, which was further, extended for 2 more weeks (Figure 1). We follow the patient for 8 months and at last follow up patient was able to wear the weight over his left foot although it was weaker than the right lower limb.



Figure 1: A 14 years old male with left Tendoachilles injury with Kite string/Manja, with kite string.

Case 2

A 22-year-old female got injury (laceration) over the dorsum of left great and 2nd toe with kite string/manja while sitting at terrace of her house in winters for sunbath (Figure 2). Toes were evaluated and no other injury was found; primary repair of lacerations were done under local anesthesia. It took around 1 month to regain her normal activities before injury.



Figure 2: A 22-year-old female with left great toe dorsum and 2nd toe laceration by kite string/manja.

Discussion

Achilles is the strongest tendon of our body [7]. It provides a jumping or pushing up action while walking and running and is also function as peripheral pump or peripheral heart to aid in the venous return from the lower extremities. It has a peculiar

anatomy and the blood supply is derived from para-tenon. Because of mechanical stress and demands tendon ruptures are common. Other common entities are diabetes mellitus, SLE, alkeptonuria, autoimmune disorders and local interventions like steroid injections. Out of these, direct injuries have been seldom reported.

The aim of this article is to highlight the hazards of manja and its other deadly variant like Chinese manja. It also highlights the appearance of wound could be deceptive giving a false impression of benign looking wound which could be just a tip of iceberg. We should always search for any other underlying deep tendon and nerve injuries if found, repaired accordingly [8].

Conclusion

Kite string injuries are quit common in Asian Continent. The aim of this article is to highlight the hazards of Manja and` create awareness regarding kite string/manja injuries. We should always search for any other underlying deep tendon and nerve injuries if found, repaired accordingly. In emergency setups early repair give promising results. Late consequences of repair include increased morbidity, delayed recovery and loss of productive days. In acute trauma cases it is important to follow the basics of thorough debridement relevant prophylaxis and a meticulous distal neurovascular examination and good early repair.

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Conflict of Interest Statement

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Author Contributions

- **Ravi K. Singh:** Study concept and design, acquisition of data, analysis and, drafting of the manuscript, critical revision of the manuscript for important intellectual content and final submission draft completion.
- **Vijay Kumar:** Study concept and design, acquisition of data, analysis and interpretation of data, drafting of the manuscript, critical revision of the manuscript for important intellectual content, administrative, technical, or material support, supervision
- **Brijesh Mishra:** Study concept and design, critical revision of the manuscript for important intellectual content, administrative, technical, or material support.

- **Sameer M. Halageri:** Acquisition of data and its analysis.
- **Anshu Singh:** Intraoperative and postoperative care and critical revision of the manuscript for important intellectual content.

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