Management of snapping triceps syndrome: A case report

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Abstract
A rare case of snapping triceps syndrome caused by the snapping of the medial head of the triceps brachii muscle in a 27-year-old man was reported with complaint of medial elbow pain. It is a condition in which the distal portion of the triceps dislocates over the medial epicondyle during flexion and extension of the elbow. The condition aggravates while doing calisthenics activities like push up and bodyweight triceps exercises. The available literature on this subject is scarce and consists mainly of case reports quoting the incidence of this syndrome and few literature reviews providing guidance for diagnosis and surgical treatment of this uncommon condition. This report tries to manage the snapping triceps syndrome with conservative therapeutic intervention like Kinesio-Taping.
Key Words: Snapping triceps syndrome, Snapping triceps management, Kinesio-Taping.

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INTRODUCTION

Snapping triceps is defined as a dynamic phenomenon in which the distal portion of the triceps dislocates over the medial or lateral epicondyle of the elbow, during flexion or extension. This is a rare condition and often an unknown cause of medial elbow pain. Dislocation over lateral epicondyle has been described only once by Spinner and Goldner in 1999, and hence we focus only on medial snapping triceps.[1] The triceps muscle consists of three different parts: the medial, long, lateral heads and these heads combine to insert as a single tendon on the olecranon process of the ulna.[2] Patient usually complains of local tenderness and a snapping sensation around the medial side of elbow. This condition usually coexists with ulnar nerve dislocation.[1] Ulnar nerve dislocation represents abnormal movement of ulnar nerve out of the cubital tunnel and over the medial epicondyle during elbow flexion.[3] Snapping on the medial side of elbow, even if it is associated with the symptoms related to the ulnar nerve is not necessarily caused by dislocation of ulnar nerve alone.[4] This condition is associated with cubitus varus deformity. Cubitus varus shifts the line of pull of triceps more medial, which can cause anteromedial displacement of medial portion of triceps during elbow flexion. The ulnar nerve is concomitantly pushed or pulled anteromedially by triceps, and ulnar neuropathy may result from friction neuritis or from dynamic compression by triceps against the epicondyle. And hence, addition to snapping, these patients have medial elbow pain and ulnar nerve symptoms.[5] The pathogenesis of this syndrome is the anatomical position of the medial head of triceps which causes it to dislocate over the medial epicondyle, often result in ulnar neuritis and may not contribute to the firing pattern of the triceps heads.[6] The triceps is thinner and wider at the levels of epicondyles than of its insertion on the olecranon. As the elbow flexes, the triceps gets compressed against the distal humerus and thus triceps brodens leading to triceps dislocation over the epicondyles[7]. In the patients with true snapping, there are two separate palpable and often audible 'snaps' i.e., of ulnar nerve which dislocates first at approximately 70° to 90° of flexion, and the triceps

secondly at approximately 115° of flexion. The snapping of the triceps is usually more striking during eccentric loading of the triceps i.e., while performing push-ups. The management of snapping triceps syndrome includes conservative as well as surgical treatment. Conservative includes the advice to avoid all exacerbating activities such as push-ups, weight lifting, and repeated elbow flexion. This can be combined with NSAID's, splinting of elbow and physical therapy.[1] Splinting the elbow with the kinesio tapes (KT) may be used for prevention and treatment of snapping triceps syndrome. KT are the colourful elastic cotton strips with the acrylic adhesive that may be stretched up to 140% of their original length.[8] As there is very little evidence for the management of snapping triceps syndrome, so our aim of study is to see the effectiveness of kinesio taping for this condition.

CASE DESCRIPTION
The subject was a 27 year old male. He presented with medial elbow pain which was 5.8 cm on VAS. A snap was felt during elbow flexion and extension and aggravated while performing calisthenics activities like push-ups and bodyweight triceps exercises. Tenderness to direct palpation at the medial side of elbow was there. Physical examination revealed pain at the medial side of elbow, a snap felt during eccentric loading of triceps

brachii muscle and resisted elbow flexion, tenderness to palpation. The institutional research ethics committee provided ethical clearance and the subject provided informed consent prior to enrolment into the study. The available literature on this subject is scarce and consists mainly of case reports quoting the incidence of this syndrome and few literature reviews providing guidance for diagnosis and surgical treatment of this uncommon condition. This report tries to manage the snapping triceps syndrome with conservative therapeutic intervention like Kinesio-Taping. The kinesio taping was done on the right elbow region. Patient position was supine lying and the affected (right) arm was at 90° of abduction and external rotation and elbow was flexed to 90° (A). Measure and cut three strips. Apply first strip with anchors from medial epicondyle to olecranon process vertically with fully stretched in the middle, and then applied with each end being anchored with no stretch (B). Apply second strip with anchors from lower lateral aspect of arm to upper aspect of forearm transversely with fully stretched in the middle, and then applied with each end being anchored with no stretch (C). And finally, apply third strip from lateral middle half of arm to middle lateral half of forearm according to contour of the arm and forearm same as above (D).
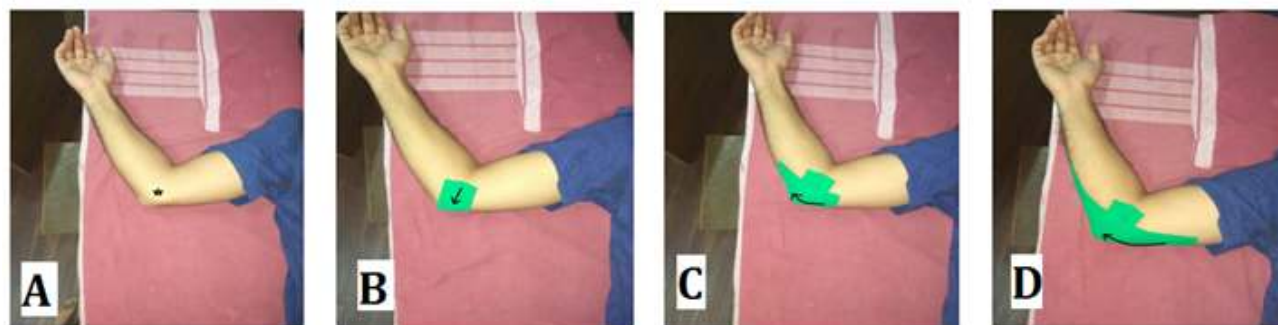
Outcomes
Calisthenics exercises like Push-ups and bodyweight triceps exercises aggravated the subject's pain and were therefore chosen as the primary outcome measure. Range of elbow at which the pain started was noted grossly while doing push-ups. This study also evaluated changes on a 100mm (10cm) Visual analogue scale (VAS) for perceived global treatment effect and pain with application of kinesio taping.

DISCUSSION
Snapping of the triceps is a relatively rare condition. The patient may present with painful snapping or sometimes with tingling numbness in ulnar nerve distribution. Dynamic ultrasound is probably the fastest and cheapest

imaging technique to objectively document a snapping triceps, although clinical examination will determine the diagnosis and subsequent treatment. When diagnosing snapping triceps syndrome, ulnar neuropathy, medial epicondylitis and distal triceps rupture should be excluded. Conservative treatment includes anti-inflammatory measures and cessation of any activities that trigger the snapping[1]. According to Kenzo Kase, the proposed mechanism by which kinesio tapes works includes- 1) correcting muscle function by strengthening weakened muscles, 2) improving circulation of blood and lymph by eliminating tissue fluid or bleeding beneath skin by moving the muscle. 3) decreasing pain through neurological suppression, and 4) repositioning subluxed joints by relieving abnormal muscle tone. A fifth

mechanism is an increased proprioception by stimulation of cutaneous mechanoreceptors.[9] If conservative treatment is not effective, surgery is the most appropriate option. During surgery, the snapping portion is resected. The results of surgery are good to excellent in well-selected patients[1].

CONCLUSION

After applying kinesio-tape the patient was able to perform push ups with no pain or little pain in few repetitions while snap over the medial aspect of elbow was absent. The intensity of pain was also decreased, from 5.8 cm to 2.1 cm which was noted on VAS. And lastly, pain was absent throughout the elbow range of motion while performing calisthenics exercises like push-ups and bodyweight triceps exercises.

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