

Tongue Papillae Thread Tourniquet Removal under Sedation: An Apparently Challenging Case

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Abstract

Hair or thread tourniquet is a common pathology in pediatric age group, especially in infant. There are multiple reported cases in the literature with variety of presentations and management. We report here a rare case of thread tourniquet around tongue papillae.

Keywords: Tourniquet, Thread, Tongue, Papillae, Ketamine

Introduction

The strangulation of tissue by fibers, hair, or thread has appeared in the literature since last century. The first reported case was in 1970 as 5 series of cases of toe tourniquet syndrome [1]. The term hair or thread tourniquet syndrome was coined in 1988 [2]. The appendages described include fingers, toes, penis, labia majora, clitoris, and labia minora. Prompt recognition and early treatment are necessary to prevent permanent tissue damage due to ischemic necrosis or auto amputation [3].

Case

A 4 years old girl who is previously healthy presented to the Emergency Department with a thread projecting from her mouth that got attached after she was playing with a thread of curtain (Figure 1). No history of choking, vomiting or respiratory distress.

On examination she was well looking, cooperative and vitally stable. Local examination of the mouth revealed a thread that is attached to the tongue papillae at the base of the tongue, which can't be removed by pulling. The tongue papillae was swollen and inflamed. Other systemic examination was unremarkable.

Trial of removal while patient was conscious by directly pulling her tongue and using forceps to hold the thread failed, so a decision to do it under sedation was undertaken. Informed consent was taken and assessment of mallampati score was done and was class 1. Backup plan was arranged of having anesthesia onboard should any difficulties arise. Patient was sedated using ketamine 1mg/kg under cardiopulmonary monitor. Procedure started with retracting the tongue using magill's forceps then the thread was held by a forceps and withdrawn easily (Figure 2). A knot was noted at its end as shown (Figure 3). Postprocedure patient was observed until she returned back to her normal level of consciousness and activity, then was discharged safely with no consequences.



Figure 1: Picture of protruded tongue showing the thread attached to the tongue papillae.

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Figure 2: Picture showing removal of the thread using Magill forceps to retract the tongue.



Figure 3: Picture of the removed thread with a knot at its end.

Discussion

Hair or thread tourniquet syndrome has been reported since 1600s and the syndrome was properly named in 1988 [2]. It is a common presentation to the pediatric emergency, and most of the times is an accidental injury, but the possibility of child abuse should not be overlooked [4].

This syndrome commonly affects the fingers, toes, and penis [5,6] but might also involve other body parts, such as the clitoris, labia, ear lobes, umbilicus, nipple, tongue or uvula [7]. It represents a thread or hair that constricts an appendages leading to swelling and inflammation of the tissue [2]. The median ages for finger, toe and external genitalia involvement have been found to be three weeks, four months and two years, respectively [7].

The management of this condition consists mainly of decompressing the constricting part. Multiple techniques have been described; the chosen one depends on the severity of the embedded thread in tissue. The commonly described method is the surgical approach with exploration and removal of the constricting part [2]. There is a newly implemented technique of using depilatory agent with a thioglycolate base that can break constrictors composed of hair but not thread. This is one of the most effective and painless methods for non-deep hair tourniquets [8].

Several cases have been reported about thread tourniquet

found in oral cavity, in uvula and circumvallate papillae [7], but non at tongue papillae as to our knowledge. Because of the rarity of this to happen; we reported our case as the first case of tongue papillae involvement with the used technique for removal.

Careful examination and early recognition is extremely important especially in a site similar to our patient. Although our patient was cooperative and calm, but we tried to avoid multiple trails and manipulation, which could cause more swelling and compromise her airway. Using ketamine (1mg/kg) for sedation to our patient was the best option of removal since she is medically free and with ASA1.

One might question the safety of ketamine use in oral procedures. But from review of the literature, we found many supportive evidence, i.e. A prospective comparative study of three sedative drugs including ketamine, midazolam and propofol used for children with need for dental intervention, evaluated the efficacy and side effects as primary and secondary outcomes respectively, there were non with the use of ketamine [9]. Another meta-analysis of 8,282 pediatric patients evaluating the predictors of complications while using ketamine. It showed that higher administration dose, age less than 2 years or more than 13, and use of co-administered anticholinergic or benzodiazepine to be the main culprits [10]. None of which were present in our patient. The procedure was done smoothly and successfully without any complications during or after sedation. The key point is to have a proper preparation and plan. Monitor the patient closely and be prepared for any possible complications that may arise during the procedure. In addition, to have a rescue plan (Anesthesiologist or ENT) physicians must be informed.

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