Case report Trauma	
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Title	Idli Plate – An Uncommon Cause of Pediatric Digital Trauma.

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Keywords	Abstract

Idli plate, finger injury, glove finger	Pediatric digital trauma due to entrapment in a foreign body are extremely rare. Here we present a case report of a 2.5 year old child with a finger entrapped within a idli plate and the novel method employed to ensure the digit is freed using latex glove and threading technique along with a discussion on other modalities that can be employed variously for entrapped fingers in foreign bodies.

Introduction

Injuries in children due to a trapped finger in a foreign body are rare but warrant immediate intervention. The trapping of metallic rings is usually dealt with by ranging from home remedies to surgical intervention. A child's finger trapped in an idli plate / Idli mould is rarely reported. Here we report a case of a trapped child's finger in an idli plate, which was freed by surgical intervention in an operation theatre under anaesthesia.

Case report

A 2.5-year-old female child was brought by her parents with a trapped right index finger in an idli plate (idli mould). The parents had tried to remove the plate at their home and later at the primary hospital. With a failed attempt at removal and bleeding from the trapped finger during the attempted removal, the patient was referred to us for further management. On examination, the single piece of idli mould was already separated into two fragments – proximal and distal. The distal fragment has a cup-like shape with a central opening, through which the child's finger was stuck, and the edges of the fragment were made sharp during the previous attempted removal. The proximal fragment of the plate was cut from the rest of the idli plate and had sharp spikes, thus making it dangerous to the people trying to remove it [Figure.1]. The trapped finger had developed oedema and bleeding, which raised the suspicion of laceration in the finger. Hence, the patient was taken into the operating theatre and under general anesthesia, surgical exploration was planned.
The trapped finger was gloved using the finger of a standard surgical glove [Figure.2], to protect it from further injury during manipulation. The distal outer cup-like fragment was removed using a 2' 0 prolene threaded over the gloved finger by the ring removal technique. Because of the sharp margin of the cup made by its separation from the plate, it cut the prolene thread twice and had to be removed meticulously. The distal plate fragment was severely damaged during the previous attempted removal. The plate's major part was cut using heavy surgical scissors, and the remaining part near the finger was broken by to-and-fro flexion/extension movements to free the finger from the foreign object [Figure.3]. During the whole procedure, the glove protected the finger. The cut injury made during the previous attempted removal was sutured with 4-0 prolene. At the end of the procedure, the capillary refill time of the finger was satisfactory, and there was no vascular compromise [Figure.4]. The child was discharged on Day 2 after the surgical procedure with good finger movements.

Observations


Figure.1: The trapped finger with the two fragments of the idli mould – proximal plate and distal cup


Figure.2 : Intra-operatively, the trapped finger with a protective glove cover


Figure.3 : The two metallic fragments post removal.


Figure.4 : Post surgical removal

Discussion

Finger injuries in children are rare. A finger struck in a hole or ringed object is very rare. A finger struck in an idli plate/ idli mould is the rarest of the rare, and only a few case reports are available in the literature.(1,2)An idli is a very popular steamed rice cake breakfast, in South Indian cuisine made using specialised moulds.

Any ring or foreign object causing constriction around the finger can act as a tourniquet, resulting in blockage of lymphatic /venous drainage coupled with the blockage of arterial flow.(3) A stuck foreign object may cause ischemia, infection, tendon attrition and ultimately amputation of the digit. Therefore, fingers trapped within foreign bodies need to be removed immediately to avoid damage to the finger concerned.

Various techniques are used to remove the foreign bodies, varying from home remedies to surgical removal. Home remedies include immersion of the affected finger in cold water to reduce the oedema, coupled with lubricants such as soap solutions, shampoos, Vaseline, butter, cooking oil, and baby oil for easy manipulation and removal have also been described.(1) A string or thread wound around the finger and under the foreign object and then unwound from proximal to distal fashion, making the removal easy, is a popular technique.

Using an elastic tourniquet, Nylon ribbon tape, Coban, various threads, etc to reduce the oedema and aid in the freeing of the stuck finger can be done.(4–8)In these methods, the foreign object is removed intact without damage. When removal fails with the above methods, alternatively electric saw, metal cutters, surgical pliers, wire cutters, heavy-duty steel plate cutter, etc. can be used.(3,9,10) In our case, winding the thread around the finger under the fragmented, sharp idli plate was not as easy as in ordinary rings. The plate was broken into two separate parts with irregular edges, making the threading challengingly difficult. In order to protect the finger, we used the finger part of a sterile surgical latex glove to isolate and cover it; a novel technique described here, which may be used commonly but not yet described distinctively. The shape of the finger part of the glove makes it easy to put into the finger. Alternatively, a thick polythene cover can also be used to protect the finger from injuries during the surgical removal. In our case, there was a laceration over the dorsal aspect of the trapped proximal phalanx from previous crude removal attempts, which was sutured primarily, but in case of circumferential lacerations around the finger resulting in a degloving injury, the parachuting technique can be considered in repairing the degloved digit.(2)

Conclusion

Stuck fingers in ringed foreign objects need immediate removal. When home remedies fail, it is better to use surgical removal under anaesthesia to prevent further damage. Removal with a latex glove covering the finger is a safe and effective method.

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