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Finger injury by snap button machine: A case report of an accident with a jeans snap button machine

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Abstract

We present a case report of a 16-year-old male who had an accident with a snap button machine. He was brought to the Emergency Department having pinched his right middle finger between the jeans button. Although first impressions of the accident might have expected a worse injury, fortunately it just showed a nail bed cut. Most accidents of this type cause serious injuries with the involvement of vessels, nerves, tendons, muscles or bones.

Keywords: finger injuries, hand injuries, emergency care

Introduction

With rapid industrialization in our country industrial hand injuries also account for a high number of injuries in our country. The incidence of injuries was 36 per 10,000 workers per year. 47% were due to entrapment of the hand in active machines, 25% occurred during lifting and transportation of heavy objects and 12% while handling tools. The injuries resulted in residual deficit in 55% of cases and were serious enough to require absence from work of more than four weeks in 48% of cases. On an average 35 days were lost per injured worker, according to a report from Jaipur published as early as 1988 [2]. If these injuries are not being treated properly immediately and rehabilitation of that hand is not instituted the whole family suffers whether it is the breadwinner or home maker. Approximately 50% of nail bed injuries are associated with distal phalangeal fracture. A majority of these are comminuted tuft fractures which do not need any specific treatment. Most accidents with snap button machine cause serious injuries with the involvement of vessels, nerves, tendons, muscles or bones [1]. There are only a few cases in which they end off lightly. In addition to carelessness, insufficient precautions of the device play a crucial role in the development of these injuries.

Causes of injuries

The most common cause of acute and chronic nail bed deformity is trauma. The aetiological factor may be industrial as in crush injuries due to machines, road traffic accidents or sometimes even in the sports where it gets hurt by a ball or a weight. These result in closed or open injuries. The nail bed gets squeezed between the hard nail and distal phalanx resulting in simple or complex lacerations. Sharp lacerations can occur when objects land with enough force to penetrate the nail plate. Avulsion injuries can result from crush or grinding type injuries. This can result in partial loss of nail bed also. Proper management of these injuries is essential not only to get them to heal quickly but also to prevent complications and the resultant late deformities.

Case report

A 16-year-old male was brought to the Emergency Department having pinched his right middle finger in a snap button machine. The accident occurred at a factory while fixing button to a jeans. On closer examination the distal phalanx of his right middle finger was found pinched between two parts of jeans button (Figure 1). The other fingers of the right hand were found free and unharmed. The factory coworkers tried unsuccessfully to cut the button with a side cutter. Considering the unfavourable position of the finger,

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the risk of further damages was too high. Under local anaesthesia we finally succeeded to free the finger by cutting two parts of the button with a wire cutter. Although first impressions of the accident might have expected a worse injury, fortunately it just showed a nail bed cut. There were no bone fractures or tendon injuries found. Peripheral perfusion and sensibility were unimpaired. Under continued local anaesthesia a nail bed suture was performed ^[2] (Figure 2). The forefinger was kept in a special splint for 1 week ^[3].



Fig 1: Right middle finger nail snapped between jeans button (Dorsal view)



Fig 2: Right middle finger tip snapped between jeans button (Palmar view)



Fig 3: Pre operative x-rays (Antero-posterior and Oblique view) showing jeans button over middle finger distal phalanx



Fig 4: Post operative image showing middle finger after removal of jeans button (Dorsal view)



Fig 5: Post operative image showing finger tip after jeans button removal (Palmar view)



Fig 6: Post operative x-rays (Antero-posterior and Oblique view) after jeans button removal showing middle finger distal phalanx without bony injury



Fig 7: Jeans snap button machine



Fig 8: Two parts of Jeans button

Discussion

Most injuries with snap button machine happen due to carelessness. As seen in this case, workers in an attempt to button more jeans in limited time period, while speeding they unconsciously crush their finger in the snapping machine.

Conclusion

In principle, all attempts should be avoided to put fingers between snapping machine while working with it. The safety precautions in old devices are often much too low. Timely intervention is of utmost importance as delayed presentation can lead to appearance of gangrenous changes in digit and subsequent amputation of digit. As long as manual buttoning is still in use, injurie like in this case are to be expected.

Notes

Competing interests

The authors declare that they have no competing interests.

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