

Jeans button injury: A unique type of injury and an occupational hazard

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ABSTRACT

Jeans button injury is a highly uncommon injury caused by accidental punching of jeans button on the finger instead of denim cloth. This is a serious occupational hazard. This type of injury can be prevented by taking adequate safety precaution. The authors report a case of such injury and its appropriate management.

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Introduction

India is passing through a major epidemiological transition, socio-demographic changes, and technological revolution due to rapid urbanization. Over the last decade, a lot of industries manufacturing jeans have come up near our institution. Although this has given employment opportunities to many, it has also resulted in more and more people exposed to occupational injuries, as general awareness about occupational safety and occupational hazard are not spread in the society simultaneously [1]. In the agricultural sector in India, where more than half of the total workforce is employed, the prevalence rate of accidents ranges from 7.8% to 27.7%, depending upon the type of work performed [2]. Prevalence of work-related injuries is 35% among all injuries reported in a public sector industry [3]. Unemployment and poor hygienic conditions prevalent in the society, along with illiteracy and ignorance have further compounded the problem [4]. The whole objective of this article is to highlight this type of injury so that appropriate management can be done to prevent such type of injuries in the future.

Case Report

An 18-year-old male presented to the Emergency Department in our institution with a jeans button

punched on the tip of his right middle finger (Fig. 1). He complained of severe pain at the site of injury. Further enquiry revealed that his hand got stuck in the machine, which is used for punching jeans



Figure 1. Clinical and radiological picture of the involved finger with jeans button *in situ*.

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button on denim. Examination of the finger showed the jeans button punched through the tip of the middle finger. The part of the tip of the finger distal to the jeans button was swollen, slightly white and painful, probably due to temporary disruption of vascular supply distally. Radiographs were taken to look for bony injuries (Fig. 1). The patient was immediately prepared for surgery and was taken to the operation theatre where jeans button removal was done under the axillary block. The details of the sequence of steps followed for removal of jeans button are being discussed now. First, the jeans button tack was removed. The round edges of the tack were everted using artery forceps. The tack was then detached from the jeans button by pulling it with a plier. Complete care was taken to avoid soft tissue crushing underneath the jeans button tack while detaching it from the jeans button. Then the jeans button was removed with the help of plier (Fig. 2). After the removal of the jeans button, X rays were taken to confirm complete removal of the Jeans button and to see the position of fracture fragments of the distal phalanx. The X rays in our case were suggestive of comminuted fracture of distal phalanx of the middle finger which was not significantly displaced and hence, it was decided to manage the fracture conservatively with buddy strap (Fig. 2). Dressing of the wound was done following wound lavage along with strapping. Healing of wound took place by secondary intention subsequently.



Figure 2. Clinical and radiological picture of the involved finger after removal of jeans button.

Discussion

The jeans button is used as a method of fastening denim trouser. It is usually composed of two components, the jeans button and the jeans button tack (Fig. 3). In order to understand the mechanism of injury, we have to know how the jeans button is applied on denims. The jeans buttons are attached to the denim using automatic jeans button punching machines. There are two slots available in the machine. One is for jeans button and other is for jeans button tack. When the denim cloth is placed between the two slots, these slots press against each other resulting in the punching of a button on the denim. In our case, the finger got trapped between those slots resulting in the punching of jeans button on the finger. The authors also visited the factory to see how the machine works.

Attention must be paid while applying jeans button to prevent accidental injuries. During application of the jeans button if the finger is not taken away on time, they get stuck in the machine as happened in our case. These type of injuries can be prevented very easily by teaching the workers about the safety instructions while using the machine. The workers should not be allowed to work extra shifts. They should use protective gloves while working. Safety instruction manual should also be provided by the machine manufacturer which has been found to be very helpful for prevention of these types of injuries. Till now, two patients have presented to us with this type of injury. The jeans button should be removed as early as possible to prevent the formation of gangrene of tip of finger distal to the injury.



Figure 3. Jeans button and jeans button tack.

Although the profile of the at-risk worker population has changed greatly over the past decade, both quantitatively and qualitatively, the risk of occupational injury still centers on workers of various industries [5]. These types of injuries can be prevented easily by taking adequate precautions. The government must ensure appropriate rules and regulations to be followed regarding the safety of the people working in these industries by playing a more proactive role. It is also the responsibility of the academic community to address the long-neglected concerns of occupational safety and to look after health promotion, specific protection, and safety measures of the workers.

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