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A Case of Penile Trauma Caused by Magnets

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ABSTRACT

The authors report a case of pediatric penile trauma that was caused by a magnet. No similar case has been recorded. The injury was self-inflicted, caused by 2 pieces of magnet placed on opposing sides of the penile shaft. This resulted in 2 circular scars extending to, but not through, Buck's fascia. An operative procedure to remove the 2 magnets was required. Long-term follow up showed no serious complications.

KEYWORDS: Penis; Penile trauma; Magnet

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INTRODUCTION

Blunt traumatic injuries to the penis are rare and many remain underreported. The penis is mobile and largely protected by its position. In adults, the penis is more prone to trauma in the erect state; such trauma could be in form of penile fracture [1,2] or injury to the dorsal penile artery or vein [3]. Pediatric penile trauma is rare, has different underlying causes, and is underreported. The authors report an unusual case of a 12-year-old boy with magnet-induced penile injury.

CASE REPORT

A 12-year-old previously healthy boy presented to the emergency department with a penile injury. He was playing with 2 pieces of 6.35 mm (1/4 inch) square magnets (Magne Block ™, Hasbro Toys, USA) (Figure 1) 2 weeks earlier. There was no history of sexual play or abuse. Both magnets became attached to the dorsum of the penile shaft, in direct opposition to each other.

The patient could not remove the magnets and was too embarrassed to ask for help. The next day, he told his father that he had "magnets in my pants". The father did not understand the statement and the magnets were left in place. The 2 magnets did not cause any distress or pain. The patient was passing urine normally and continued his daily activities, assuming that the magnets would eventually fall off. It was not until 2 weeks later, when the pain and irritation worsened and the magnet site became very tender to the touch, that the family doctor was consulted.

On presentation, the patient's temperature was 36.8°C (98.2°F). He was well hydrated and not in distress. Physical examination showed 2 magnets deeply embedded into the skin at the dorsal aspect of the penile shaft, at the 10-o'clock and 2-o'clock positions. There was marked tenderness with manipulation.

The child was taken to the operating room and given anesthesia. The site was carefully inspected and the 2 magnets were removed under sterile conditions. A through-and-through type of injury to the dorsal penis was evident (Figure 2; Figure 3). The injury did not extend deeper than the skin and subcutaneous layers. Buck's fascia was intact. Swabs for culture were taken. Results later confirmed a moderate growth of *Staphylococcus aureus*. An absorbent dressing was applied to both lesions.

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case report

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Figure 1. Two Pieces of 6.35 mm (1/4 inch) Square Magnets Used to Create the Injury.
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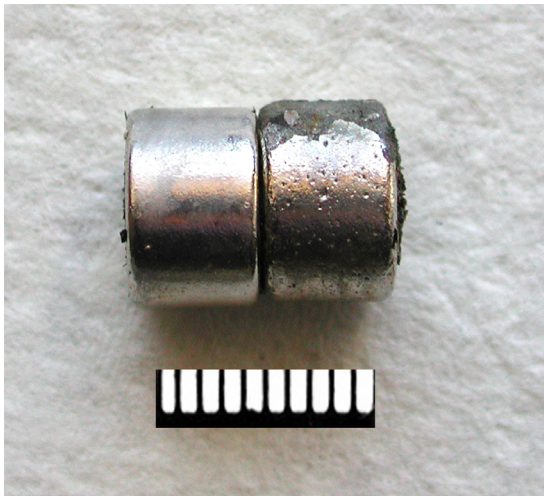

The patient was admitted to the hospital over night. He was started on oral Amoxicillin and clavulanic acid, which were continued for 10 days. Chloramphenicol ointment and penile dressings were applied daily on discharge by a district nurse for 2 weeks. He was reviewed 6 weeks later as an outpatient. The 2 lesions had healed with a residual circular pigmented scar (Figure 4; Figure 5).

DISCUSSION

Reports of penile injury in children are sporadic [4]. They vary in severity from entrapment in a zipper to more serious injuries. Among the most common are circumcision injuries, human hair-tie strangulation injuries, animal attacks, bicycle accidents, and electrical injuries [4-6]. Most children with zipper injuries have penile skin caught in a zipper with no significant penile injury. Other reports of penile trauma include injury from the toilet seat and the vacuum cleaner [8,9]. Penile trauma complicating circumcision has been reported more frequently. Varying degrees of severity ranging from skin or meatal injury to partial glanular amputation or total penile amputation have been described [4-6].

A wide range of objects can cause penile strangulation, from wedding rings to rubber bands. In children, strangulation is often due to a hair or thread. Removal of the constricting agent at this stage usually results in no long-term sequelae [7].

Several authors have reported domestic animal attacks. These can produce severe forms of penile injury including total emasculation [8,9].

Causative relationships between trauma and inflammation of penile skin remain poorly defined. The etiology of inflammation secondary to injury inflicted by strong attracting magnets

Figure 2. Penile Injury Caused by Opposing Magnets (Right View). doi: 10.3834/uij.1944-5784.2009.08.10f2

Figure 3. The Second Magnet Site in Direct Opposition.
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Figure 4. Image of the Healing Ulcer 6 Weeks After Magnet Removal.
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Figure 5. Second Image of the Healing Ulcer 6 Weeks After Magnet Removal.
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remains unclear, because there is little literature to support any proposed theory.

In the present case, long-standing compression on the dorsum penis by attracting magnets resulted in pressure necrosis of the skin. The resultant ulceration later healed with secondary intention and scar formation (Figure 4; Figure 5).

Trauma induced by magnets should be approached with great care. The injury could be emotionally and physically harmful to both the child and his/her caregiver. Parents can carry a sense of guilt and may become quite frustrated and anxious.

Removing the magnets should be done under sedation or analgesia in the pediatric population and in cases where deeply-embedded or infected lesions are suspected. Intravenous antibiotic cover guided by department and hospital policies or available swab cultures such as Cefazolin should be given. In the authors' experience, moist–to-dry dressings provide a gentle debridement and are performed with sterile normal saline. For the partial-thickness wounds or superficial abrasions, the authors recommend simple adhesive film dressings such as Tegaderm; these are self-adhering and waterproof, yet permeable to oxygen and water vapor.

Public awareness about toys with magnet components cannot be overemphasized. Magnets are components of a large number of marketed toys and other products. Recent improvements in manufacturing processes have made small, powerful magnets inexpensive and readily available, increasing the potential for exposure. The authors did not find any previous reports of magnet-induced penile skin or corporal injury. The Consumer Product Safety Commission (CPSC) in the USA has recalled some toy products containing small, powerful rare-earth magnets that pose unique health hazards to children [10,11]. Since 2003, CPSC staff members have identified 1 death resulting from ingestion of these magnets and 19 other cases of injuries requiring gastrointestinal surgery.

Caregivers should keep products with magnets out of environments where children less than 7 years old are playing and be aware of their unique risks if ingested or used incorrectly. Magnets should never be used to emulate tongue, foreskin or lip piercing. Caregivers also should be aware that children might be reticent to admit a problem arising from magnet toys or be unable to describe what they have encountered. Delays in diagnosis and treatment can lead to serious outcomes.

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