CASE REPORT

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Souvenir Bullet: A Case Report of a Rare Case with Bullet Lodged in Prostate

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Abstract

The risk of a retained bullet may involve a fatal consequence or potential immediate or early complication which may require surgical intervention. The bullet that remains entrenched inside a body for a long time without causing life-threatening complications like infections or toxicity is loosely called a Souvenir Bullet. To the best of our knowledge, there is a paucity of reports handling retained foreign bodies in various well-protected cavities like the skull and pelvis. Herein, we describe a rare case of retained foreign body (bullet) in the prostate.

Medico-legal consultation was sought in a case of alleged firearm injury over the left thigh. Who was brought to the emergency of Rajindra hospital, Patiala. A hard nodule was felt at the lateral to lower prostatic margin at the 4 o'clock position on clinical examination. Multiple opinions were sought from specialist doctors from different hospitals regarding the removal of the bullet. All of them agreed that the bullet should not be removed for now.

The majority of civilian gunshot wounds are of low energy, however, and the management of retained bullets in these injuries depends primarily on the location of the missile. Few cases have been reported showing a bullet impacted the prostate. There is a need for a global consensus about the management of retained foreign bodies, especially prostate.

Keywords: Gunshot, Projectile, Prostate, Retained Bullet, Ricochet.

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Introduction

Gunshot injuries are always known to cause severe morbidity and mortality. They vary in morbidity and significance, forming a spectrum from trivial to life-threatening conditions which can occur in both military and civilian surroundings.[1] The risk of a retained bullet may involve a fatal consequence or potential immediate or early complication which may require surgical intervention. The bullet that remains entrenched inside a body for a long time without causing life-threatening complications like infections or toxicity is loosely called a Souvenir Bullet.[2]

A large proportion of individuals with gunshot injuries have retained bullet fragments (RBF). There are no standard medical guidelines regarding bullet removal and the full extent of the consequences of RBF remains unknown.[3] To the best of our knowledge, there is a paucity of reports handling retained foreign bodies in various well-protected cavities like the skull and pelvis. Herein, we describe a rare case of retained foreign body (bullet) in the prostate.

Clinical History

Medico-legal consultation was sought in a case of alleged firearm injury over the left thigh. who was brought to the emergency of Rajindra Hospital Patiala. The patient was conscious, well oriented to time place and person, with a complaint of pain in the left thigh. On local examination, there was a firearm entry wound in the form of a punctured lacerated wound measuring 0.6cm x 0.5cm with an abrasion collar present on the lateral aspect of the left thigh, in its upper third, 7 cm below the anterior superior iliac spine and 36 cm above left knee joint, active bleeding was present (Figure 1).

A hard nodule was felt at the lateral to lower prostatic margin at the 4 o'clock position on clinical examination. The NCCT pelvis depicted a metallic density object measuring 1.9 cm x 1 cm in mean axial dimension, giving marked streak artefact in the pelvis adjacent to the left Levator ani muscle at the apex of the prostate. Skin defect suggestive of an entry wound was present on the lateral aspect of the left upper thigh. Air loculi suggestive of emphysema and subcutaneous tissue fat stranding are seen in the lateral compartment of the left thigh. No fracture was seen. (Figure 2). Ultrasound micturating urethrogram and retrograde urethrogram showed metallic density radio-opaque object simulating a bullet, inferior to the bladder on the left side, away from the course of the urethra, in the pelvic region.

As per the urologist's opinion, no urological intervention was required at the prostate regarding bullet injury. Another

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Figure 1: Showing entry wound

team of specialists from a second institute observed that the patient was self-voiding; passing flatus normally, with digital rectal examination showing normal peri-anal skin, normal tone of sphincters, and foreign body felt in the left anterolateral anal canal, just above the prostate apex, no signs of peritonitis, and anorectal mucosa intact; whereupon they advised that there was no indication for surgical intervention. A third opinion sought privately by the patient also concurred with these opinions.

Discussion

Gunshot wounds contaminate the tissue and site involved, which needs exploration and debridement. The majority of civilian gunshot wounds are of low energy, however, and the management of retained bullets in these injuries depends primarily on the location of the missile. Lead toxicity from retained bullet fragments although rare may manifest as microcytic hypochromic anaemia, chronic renal failure, abdominal pain, anorexia, neuropathy, lethargy, encephalopathy or even systemic toxicity as a result of synovial fluid dissolving lead present in the articular capsule.[5,6] Lead toxicity is difficult to both predict and diagnose, but it is important to treat early, given the potential severity of the disease.[7,8]

Few cases have been reported, showing a bullet impacted the prostate.[4] Retained bullet in the prostate can cause lower urinary tract symptoms like bothersome urinary urgency and frequency,[9] and urethral obstruction.[10] Sometimes, foreign bodies are left inside the body of the victim since manipulating them could exacerbate vascular or neurological complications, sometimes even death. With time these foreign bodies cause less threat and remain isolated following encapsulation of dense and fibrous granulation tissue.[6,11,12]

Although a large number of factors influence the missile in flight; after penetration of the body, the most important factor is the amount of energy transmitted to the tissue.[13] It is very important to know the speed of the projectile to know the severity of the injury. In this case, the fact that there is no exit hole and the bullet has likely bounced off the bone indicates that it is a low-velocity projectile. There is no doubt that if the attack had been carried out with a high-velocity weapon, there would have been a large exit hole. Ricocheted bullets have a reduced capability for tissue penetration.[14]

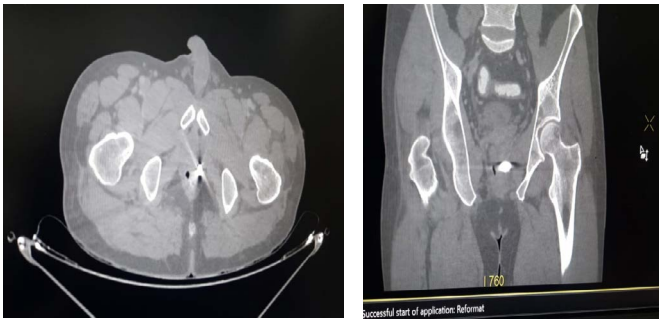

Figure 2: Showing radiological image of bullet retained in prostate

Retained bullets are associated with adverse psychological consequences after firearm injury. To improve recovery and aid in clinical management decisions, clinicians should consider both the psychological and physical effects of retained bullets in survivors of firearm injury.[15]

Conclusion

There is a need for a global consensus about the management of retained foreign bodies, especially prostate. Also, the long-term consequences in cases with retained foreign bodies managed conservatively should be collected and correlated with the original foreign body location. There will also be an issue in the medicolegal consequence wherein the opinion regarding the nature of the injury as well as the cross-matching of the bullet will need to be addressed.

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