

Law Enforcement Bean Bag Projectiles Can Cause Cavitory Wounding and Hemorrhage

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Objective

- We review a case of skin penetration by bean bag projectile causing soft tissue avulsion and acute blood loss.
- This case report contributes to the limited literature available on less lethal projectiles.

Introduction

- Bean Bag Projectiles (BBP) are categorized as "less lethal" rounds of ammunition compared to traditional firearms
- Variations exist, but commonly consist of lead spheres enclosed by ballistic fiber
- Effective range is 5-60 ft. with terminal velocity of 280 ft/s at ten yards. When fired, they distribute a force over 6cm²
- There is limited literature regarding soft tissue trauma and acute blood loss

Case Report

- 32-year-old female presented with 2 wounds from close-range BBP.
- Significant bleeding occurred at the scene, hypotensive upon arrival. Required 2u PRBC.
- Palpable masses appreciated in the right inguinal ligament and left hip. Not radiopaque on imaging.
- Upon exploration, the right groin wound revealed one BBP with 3 wadding discs. The Left hip wound terminated at greater trochanter fascia, BBP removed intact.
- Each wound cavity was 2-4 cm in diameter and at least 10 cm in length. Extensive subcutaneous fat necrosis and muscular oozing
- Wounds were irrigated, debrided, and partially closed with skin elliptical incisions
- Patient discharged Hospital Day #4 after closed reduction of ankle fracture. Wounds healed without complication

Imaging



Conclusions

- BBP can cause large wounds and clinically significant bleeding from smaller, non-named vessels
- These low-velocity projectiles with high-contact areas can cause life-threatening injury
- Identification of wadding discs within wound suggests close-range contact
- Prompt exploration and removal of foreign bodies along with control of hemorrhage are paramount objectives for management
- More information is needed regarding outcomes and what should be anticipated by traumatologists