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Ultrasonic imaging of gunshot wounds in pig limb

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ABSTRACT. We investigated wound tract extension of traumatic gunshot wounds in limb soft tissues as well as wound tract sonographic features and change-patterns when the limb position was changed. The experimental animals included 8 healthy crossbred pigs in the Chengdu plain region. Chinese Type 53 Carbine was used to establish the gunshot wound model of porcine soft tissues. Gunshot-injured zones in the soft tissues were dynamically observed at different time points using ultrasonic technology. Pathological examinations were performed for the corresponding regions for comparison and analysis. The internal echo of the wound tract was a pipe-like echo that changed over time. The wound tract extension changed with postural changes. The gas echo extended along the inside of the wound track, surrounding the fascia to further tissues. Ultrasonic imaging of gunshot wounds in pig soft tissues shows specific characteristics. The application of ultrasound technology may provide important imaging protection for gunshot wound debridement and postoperative unobstructed drainage, helping to improve the judgment and treatment of limb gunshot injuries.

Key words: Experimental study; Gunshot wound; Pig limb; Ultrasonography; Wound tract

