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Scrotal Swelling After Penetrating Chest Trauma

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A 16-year-old male was brought to the emergency department by ambulance after being found lying unresponsive on an overturned motorcycle. He was orotracheally intubated. He had palpable subcutaneous crepitus over the chest and abdomen with massive scrotal swelling, and his back exam revealed multiple penetrating wounds (Figure 1). Autopsy results found five right-sided posterior thoracic gunshot wounds. The path of one bullet shattered the right seventh rib, entering the right lung and exiting through the main pulmonary artery before ending at the left clavicle.

The presence of intra-scrotal air or gas is a rare clinical entity formed when air reaches the scrotum through tissue planes and cavities via the path of least resistance. The air source may be remote from the scrotum. Known causes include infections from gas-producing organisms, intestinal or gastric perforation and pneumothorax.^{1,2} Three common routes could allow air to track into the scrotum: 1) intra-abdominal air through a patent process vaginalis; 2) retroperitoneal air through the inguinal canal superficial to the fascia covering the spermatic cord; and 3) direct extension of subcutaneous emphysema of the trunk.² While imaging studies can aid in the diagnosis of pneumoscrotum, it does not require specific treatment. Instead, diagnosis and treatment should focus on identification and resolution of the underlying cause. Antibiotics are recommended when pneumoscrotum arises after intestinal perforation or infection. Spontaneous resolution generally occurs three to five days after eliminating the source of gas.^{1,3} In the case presented here, the cause of pneumoscrotum was life threatening. Penetrating trauma violating the pleura resulted in the introduction of air within the subcutaneous tissues. An expanding scrotum with crepitus may provide a valuable clue to an underlying serious etiology that is not immediately obvious.



Figure 1. Markedly swollen scrotum with no other visible signs of anterior trauma (top) and multiple right scapular gunshot entrance wounds posteriorly (bottom).

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