A Rare Case of Pneumoscrotum Following an Open Thoracotomy

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BACKGROUND
Pneumoscrotum describes the presence of air within the scrotum. It is not well described in the literature; therefore, the true incidence of pneumoscrotum is unknown. Multiple mechanisms, both pathologic and procedural, might explain air accumulation in the scrotum. Air will spread via diffusion from its source down the fascial planes and into the scrotum, causing pronounced scrotal swelling. Pneumoscrotum alone is a benign issue, and once the primary cause of the scrotal emphysema is treated, the scrotum should return to its usual size. Here we report a rare case of pneumoscrotum following an open thoracotomy and pneumothorax.

CASE
Hospital Course
A 60 year old Caucasian male presented to the trauma emergency department following a single motor vehicle collision with a guard rail. He was an unrestrained driver and hit the steering wheel on impact. A contrast enhanced CT scan revealed fractures of ribs two through six on the left side, resulting in a small hemothorax. The following morning a chest x-ray revealed a new, large pleural effusion. Chest CT with contrast revealed the left sided hemothorax had increased in size and was now associated with complete atelectasis of the left upper lobe of the lung. A thoracotomy tube was inserted on the left side to drain the hemothorax, and a video-assisted thoracoscopic surgery (VATS) with rib fixation was scheduled for the following day. The patient began exhibiting signs and symptoms of delirium tremens, was intubated, and subsequently developed ventilator-associated pneumonia. The VATS was unable to be performed until 14 days post-admission. It was impossible to see anything in the chest with the thoracoscope given the amount of hemothorax and organized blood. The VATS was aborted and converted to an open thoracotomy. One liter of hemothorax was evacuated, the lung was decorticated, and multiple lung lacerations were repaired. A new chest tube was placed and the patient returned to the surgical trauma unit for post-operative observation.

Development of Pneumoscrotum
Marked scrotal swelling was observed two days post-operative. Scrotal ultrasound revealed shadowing raising the question of air in the scrotum. No abnormalities were noted among the testicles, epididymis, vascularity, or flow. Crepitus was palpated on the patient’s anterior left neck, but no crepitus was noted on the patient’s chest, abdomen, or pelvis. The patient had no new symptomatic complaints. Urology was consulted and CT scans of the chest, abdomen, and pelvis were ordered. The CT scan showed a very large amount of subcutaneous emphysema of the chest extending into the scrotum with a small left pneumothorax. A second chest tube was inserted on the left side, and the scrotum deflated over the next four days.

DISCUSSION
Pneumoscrotum describes the presence of air within the scrotum. Pneumoscrotum can either refer to scrotal emphysema (also known as subcutaneous emphysema of the scrotum) or scrotal pneumatocele. While it is thought to be a rare entity, scrotal emphysema is not well described in the literature; therefore, its true incidence is not known. The first case was described in 1912 following a nephrectomy, and few cases have been reported or described since. Pneumoscrotum can either be pathologic or procedural. Causes of pathologic pneumoscrotum include pneumothorax, pneumomediastinum, visceral perforation, trauma, direct scrotal injury, and Fournier’s gangrene. Causes of procedural pneumoscrotum include but are not limited to endoscopy, laparoscopic procedures, chest tube placement, or anastomotic leak after small or large bowel surgery.

REFERENCES