

9-1969

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Recommended Citation

Bush, George and Nixon, Robert K. (1969) "Scrotal Inflation: A New Cause for Subcutaneous, Mediastinal and Retroperitoneal Emphysema," *Henry Ford Hospital Medical Journal* : Vol. 17 : No. 3 , 225-226.

Available at: <https://scholarlycommons.henryford.com/hfhmedjournal/vol17/iss3/9>

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NOTES AND COMMENTS II

Scrotal Inflation: A New Cause for Subcutaneous, Mediastinal and Retroperitoneal Emphysema

George Bush, M.D. and Robert K. Nixon, M.D.*

Subcutaneous, mediastinal and retroperitoneal emphysema have been reported from a variety of causes. The tissue gas most commonly arises from defects in the pulmonary or gastrointestinal systems, from gas producing bacteria, or from iatrogenic etiologies. In the case presented here all three types of emphysema were present as the result of an interesting and previously unreported mechanism.

Case Report

A 51-year-old white male was brought to the Emergency Room by his wife on February 8, 1969, complaining of rather generalized aching and a feeling of air under his skin. He stated that the night before he had attempted a new technique to heighten sexual pleasure which he had recently learned from a hippie newspaper article in San Francisco. Following preliminary cleansing with merthiolate, a puncture wound was made with a darning needle on the right side of the scrotum. His wife then placed a drinking straw into the wound and inflated the scrotum to the size of a "grapefruit." A second inflation was repeated some 15 minutes later and intercourse followed each inflation, but the patient was not certain whether ejaculation occurred. Some 45 minutes later he noted hoarseness, painful swallowing and a sensation of fullness and choking in the neck. This was followed by pain in the suprapubic and perineal regions. An attempt was made to manually squeeze the air from the scro-

tum. Crepitation and aching over the body ensued during the night.

Past history included episodes of recurrent prostatitis and a period of transient impotency one year before at the time of his second marriage.

Physical examination revealed a somewhat anxious middle-aged white male with subcutaneous crepitation palpable from the mandible, over the trunk and upper and lower extremities to the level of the knees. The right side of the scrotum presented a 1/2 cm perforation with a small area of surrounding erythema. The testicles were normal. All vital signs were likewise normal. A faint systolic murmur was heard along the left sternal border. There was no mediastinal crunch. Indirect laryngoscopy revealed a mild swelling and crepitation of the posterior wall of the hypopharynx; the vocal cords were normal and the airway adequate.

Laboratory studies included a hemoglobin of 15 gms, WBC of 7,650 cells per cubic millimeter with 76% segmented neutrophils and 24% lymphocytes. The urinalysis was normal.

Radiologic studies confirmed the distribution of subcutaneous emphysema noted on physical examination. In addition, air was demonstrated in the mediastinum and retroperitoneal space.

On the second hospital day a cellulitis of the scrotum was noted with accompanying temperature rise to 100.5°F and a WBC of 19,000 cells per cubic millimeter with 84% segmented neutrophils, 12% lymphocytes and 4% monocytes. Culture of the wound demonstrated numerous alpha and beta hemolytic streptococci plus coagulase negative staphylococci aureus.

Treatment with warm moist scrotal compresses plus oral ampicillin produced an uneventful recovery and the patient was discharged one week following admission with a moderate amount of residual emphysema.

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Discussion

A search of the literature discloses no instance of a similar pathogenesis for the disseminated emphysema presented by our patient. The probable route of air dissection can be deduced from certain previous reports. Perforation of the sigmoid colon with scrotal emphysema² as well as retroperitoneal, mediastinal and subcutaneous emphysema¹ has been reported. Likewise, scrotal emphysema has occurred as a complication of lumbar sympathectomy

in which air was postulated to have spread along the spermatic vessels.³ Subcutaneous emphysema of the abdomen and scrotal emphysema have been produced in cadavers by air injection of the presacral space.⁴ In all instances in these latter studies, air was found to traverse the inguinal canal.

In the case reported, therefore, it would appear likely that air forced retroperitoneally from the scrotum, progressed upward to the mediastinum and then gained subcutaneous access.

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