Pneumoscrotum in a patient with tracheotomy


ABSTRACT

Pneumoscrotum is a rare pathology that has received little attention in the urological literature. The case of a patient that underwent tracheotomy with secondary development of generalized subcutaneous emphysema causing pneumoscrotum is presented. Patient is a 72-year-old man diagnosed with squamous cell carcinoma of the tonsil. Illness onset was 24 hours prior to hospital admittance. Patient then experienced progressively increasing respiratory difficulty for which tracheotomy was carried out. During postoperative period patient developed massive subcutaneous emphysema that extended to the scrotal sac. This pathology is easily diagnosed and treatment is conservative, but differential diagnosis is important in order to avoid the administration of more aggressive treatment.

Key words: Tracheotomy, pneumoscrotum, Mexico.

RESUMEN

El neumoescroto es una patología rara que recibe poca atención en la bibliografía urológica. Se presenta el caso de un paciente a quien se le realizó una traqueostomía y secundariamente desarrolló enfisema subcutáneo generalizado que generó incluso neumoescroto. Se trata de un hombre de 72 años de edad, con diagnóstico de carcinoma epidermoide de amígdala. Inició su padecimiento 24 horas previas a su ingreso, con dificultad respiratoria progresiva. Debido a la evolución de la insuficiencia respiratoria, se decidió la realización de una traqueostomía. Durante el periodo posquirúrgico, desarrolló enfisema subcutáneo masivo, que se extendió hasta la bolsa escrotal. Es una patología de fácil diagnóstico y de tratamiento conservador; sin embargo, es importante diferenciarla para no dar un tratamiento más agresivo.

Palabras clave: Traqueostomía, neumoescroto, México.
INTRODUCTION

Subcutaneous scrotal emphysema, also known as pneumoscrotum, is the increase in volume caused by air accumulated in the scrotal sac. This process has been explained by different theories. The large majority of reported cases are related to thoracic pathologies.

CASE PRESENTATION

Patient is a 72-year-old man diagnosed with squamous cell carcinoma of the tonsil. Past medical history included systemic arterial hypertension and type 2 diabetes mellitus with adequate medical control. Patient was under oncological medical management of squamous cell carcinoma of the tonsil with apparent good control.

Illness onset began 24 hours prior to hospital admittance with progressive incapacitating respiratory difficulty. Patient sought medical attention at the emergency room and was hospitalized due to tumor growth in the neck and respiratory difficulty. Gasometry study was ordered during initial evaluation and reported respiratory alkalosis. Due to the progressive increase in respiratory insufficiency tracheotomy was performed. A 9 mm tracheotomy cannula was placed with no complications.

During the postoperative period patient developed massive subcutaneous emphysema, clinically corroborated by crepitation at the neck and chest level. Chest film corroborated subcutaneous emphysema diagnosis. The emphysema extended to the scrotal sac, developing into pneumoscrotum (Images 1 and 2). Emphysema spontaneously resolved with conservative management. Patient was released 72 hours later to continue with oncological management.

DISCUSSION

Pneumoscrotum has been known since 1962 when GJ Archer pointed out that emphysema was the cause of scrotal volume increase due to accumulation within the tunica vaginalis. Nelson et al. reported that it was found between the deep subcutaneous fascia and the spermatic fascia. Pneumoscrotum is defined as scrotal sac distension produced by the accumulation of air and other gases inside it. Air in the scrotal sac can be an initial sign of life-threatening disease (such as Fournier’s gangrene) or can be simply a chance finding associated with more benign disease. Various pathogenic mechanisms have been proposed by which air can get to the scrotum from a distant source. In their study Millmond et al. described how the subcutaneous dissemination of air, the most probable pathogenic mechanism, goes from its source of origin and disseminates through the subcutaneous cellular tissue until reaching the scrotum. Another pathway through which air could travel to the scrotum would be retroperitoneal, through the inguinal canal, over the surface of the spermatic cords. Intraperitoneal dissemination of air to the tunica vaginalis is the least probable. In the majority of cases of pneumoscrotum described in the medical literature the origin of air is from a site that is far from the scrotum. There are no cases reported in the literature that are secondary to
tracheotomy, although cases secondary to pleurostomy tube placement, to traumatic intubation, and to tension have been published. There have also been reports of cases secondary to laparoscopic procedures or to perforations during colonoscopy, although gas in the scrotum has to be differentiated from subcutaneous scrotal emphysema, where crepitation of the scrotal skin is clinically found.

**CONCLUSIONS**

Pneumoscrotum is a rare pathology that is easy to diagnose. However, its origin must be determined to rule out critical pathology that would require immediate surgical management.

**BIBLIOGRAPHY**