



Pneumorrhachis and asthma exacerbation in young people

Vitorino Modesto dos Santos

To cite this article: Vitorino Modesto dos Santos (2019): Pneumorrhachis and asthma exacerbation in young people, Journal of Asthma, DOI: [10.1080/02770903.2019.1604744](https://doi.org/10.1080/02770903.2019.1604744)

To link to this article: <https://doi.org/10.1080/02770903.2019.1604744>



Published online: 22 Apr 2019.



Submit your article to this journal [↗](#)



Article views: 5



View Crossmark data [↗](#)

LETTER



Pneumorrhachis and asthma exacerbation in young people

Vitorino Modesto dos Santos, MD, PhD

Department of Internal Medicine of Armed Forces Hospital and Catholic University of Brasília, Brasília-DF, Brazil

Pneumorrhachis (or free air in the spinal canal) is a condition scarcely described in association with asthma exacerbation, subcutaneous emphysema and spontaneous pneumomediastinum (SPM) (1,2). This challenging entity may evolve unsuspected, and the diagnosis can be established based on incidental confirmatory images (1,2). Pneumorrhachis is also called aerorachia, epidural emphysema, pneumocele, spinal pneumatosis, pneumosaccus or pneumomyelogram; and may be internal (intradural, subdural and subarachnoid) or external (extradural, intraspinal and epidural) (2). Asthmatic patients with forceful cough may have high intra-alveolar pressure causing ruptures and pneumomediastinum, and the free air can pass to the epidural space (1,2).

The recent case report by Ramses Bedolla-Pulido et al. (1) describes an 18-year-old male with asthma since childhood. He had a sudden exacerbation of respiratory symptoms as well as extensive subcutaneous emphysema and pneumomediastinum. The eosinophil count was normal and the levels of Ig E and C-reactive protein were elevated. The computed tomography (CT) study showed air bubbles spreading by the orifices of the lower cervical spine to the epidural space and the spinal canal at the cervical and dorsal regions. The patient was initially treated with bronchodilators, systemic corticosteroids and antibiotics. The subcutaneous emphysema and respiratory symptoms improved and the room-air pulse oximetry was 98%. He further was treated with inhaled corticosteroids and specific allergen immunotherapy, while the pneumorrhachis was managed by watchful waiting and control of the cause. The authors discussed the main aspects of this condition, and emphasized the investigation of pneumorrhachis in asthmatic patients presenting with SPM and extensive subcutaneous

emphysema. They also highlighted the role of CT images to detect unsuspected pneumorrhachis (1).

Brazilian authors described an 18-year-old woman, asthmatic since infancy, with conspicuous SPM and pneumorrhachis during an exacerbation of bronchial asthma (2). Her respiratory rate was 22/min, with room-air pulse oximetry of 93%, and the chest CT images revealed discrete pneumorrhachis. After 5 days of conservative management (including O₂ inhalation, corticosteroids and antibiotics) the subcutaneous emphysema and respiratory symptoms improved. Similar to the Mexican case study, the incidental diagnosis of pneumorrhachis was established by CT images during the evaluation of SPM and subcutaneous emphysema (2).

Pneumorrhachis is considered an uncommon and often asymptomatic condition; therefore, the diagnosis is almost exclusively dependent upon the imaging studies. Case reports may increase the suspicion index of health care workers about this entity.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

References

1. Ramses Bedolla-Pulido T, Bedolla-Barajas M, González-Mendoza T, Hollyver Sánchez-Urbe E, Delgado-Figueroa N, León-García S. Epidural pneumorrhachis, a rare complication of asthma exacerbation. *J Asthma* 2019;1–4. doi:10.1080/02770903.2018.1539101.
2. Teixeira CA, Rego JDB, Santos VM, Almeida ACA, Martins RR. An 18-year-old asthmatic woman with pneumomediastinum and pneumorrhachis. *Prensa Med Argent* 2015;101:1–3. doi:10.4172/lpma.1000136.