

中文題目：高歌後導致的椎管積氣—罕見的病例報告

英文題目：An unusual pneumorrhachis after exertion singing -- A case report

作者：紀乃宇 1,2, 賴文德 1,2, 顏學偉 1,2, 溫文才 1,2, 陳盈志 1,2

服務單位：高雄醫學大學附設中和紀念醫院 1 內科部 2 心臟血管內科

Background: Free air in the spinal cord is an uncommon phenomenon that was first reported in 1977 by Gordon IJ et al. The term pneumorrhachis (PR) itself was first coined 10 years later by Newbold and co-workers. Etiologies of PR were subsumed into iatrogenic, traumatic and nontraumatic causes. PR can be classified descriptively into internal, intradural (intraspinous air within the subdural or subarachnoid space), external and extradural (intraspinous or epidural air) subtype. External PR by itself is usually innocuous, whereas internal traumatic PR frequently is associated with major trauma and believed to be a marker of severe injury. We reported an atypical chest pain case associated with non-traumatic PR after exertional singing.

Case Report: A 17 year-old boy without underlying diseases before. He presented with severe tearing pain at right upper chest wall and radiated to back region after exertion singing. Chest radiography showed subcutaneous emphysema in the right neck. Thoracic computed tomography was also performed to rule out aortic dissection. It was surprising that maximal soft tissue emphysema at right shoulder area and free air deposited around spinal canal, known as Pneumorrhachis. After supportive treatment with oxygen supply, patient was discharged 3 days later without any chest and back discomforts.

Discussion: The incidence of pneumorrhachis occurrence is reported to be approximately 1 in 33,000 in the general population and 1 in 25,000 in the population aged 5–34 years, especially in male gender. Various conditions may directly or indirectly produce PR including respiratory complications or conditions that produce high intrathoracic pressure and barotraumas. A comprehensive literature search of the U.S. National Library of Medicine's Medline bibliographic database by Markus F. Oertel et al. generalized etiologies of non-traumatic causes of PR. It contacts of drug inhalation, violent coughing, asthma attack, strenuous exercise and foreign body in the air way. To our knowledge, exertion singing produced nontraumatic PR was not reported. There were no empiric guidelines for the treatment of PR due to the rareness and the different pathogenesis and etiologies. The management of PR has to be individualized and frequently requires a multidisciplinary regime. Fortunately, most non-traumatic PR were not life-threatening and could be treated conservatively, such as our case. In conclusion, PR should be under suspicion in young male with atypical chest pain.