Case Report

A 44-year-old female patient was consulted for the waist and leg pain. Neurological examination was intact. The patient had a spinal computed tomography (CT) scan because of claustrophobia. In the spinal CT, the air pack was seen at the level of L5-S1 spinal extradural midline space [Figure 1]. It was seen that the air pack in the spinal canal compresses the thecal sac anteriorly. The patient has no history of spinal trauma, surgical procedures, medical treatment, asthma, pneumothorax, or pneumomediastinum. The patient was treated with anti-inflammatory drugs and followed without any surgical procedures. At 3 months’ follow-up, her pain reduced and the air pack volume decreased in axial tomography scan [Figure 2].

Discussion

Air in the spinal canal was first defined by Gordon and Hardman in 1977. The term of “PR” was first used in 1987. The presence of air in the disc is a common condition. This case is called vacuum phenomenon in degenerated discs was found as 20% by Gershon-Cohen et al. PR can be classified internal (subarachnoid or subdural) and external (epidural). It is believed that external PR is innocuous. Internal PR is frequently associated with severe traumatic injury.

However, spontaneous extradural spinal air is a very rare condition. There are theories related to air entering to the spinal canal have been described. According to Coulier, gas accumulated in degenerated disc reaches to the spinal space by finding a gap from annulus fibrosus. From another perspective, according to Kim, the air in disc and microtrauma cause erosion in the annulus. This erosion serves as a pathway for spinal air.
Peripheral alveoli burst due to the increased pressure in alveoli in the case of trauma, asthma, pneumothorax, or pneumomediastinum. Air pass to the mediastinum and then to retropharyngeal space and reaches to epidural space. In the study of Ford et al., it was seen that gas contains 90% extracellular components and nitrogen.[3] CT was accepted as a gold standard for demonstration of air in the spinal canal.[6]

In the absence of neurological deficits, follow-up of the patient with conservative treatment is possible. Bosser et al., proposed CT guided aspiration of air.[7] However, in our opinion, as long as the defect in the annulus is present, the recurrence of the air will occur. Spinal decompression may be an applicable surgical treatment.

**Conclusion**

PR is often asymptomatic. The spontaneous air in the spinal canal is a very rare condition. However, when faced with such a situation, pneumothorax, infectious cases, and malignant conditions that can cause PR should definitely be investigated.

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**Conflicts of interest**

There are no conflicts of interest.

**References**