A 33-year-old woman with an unremarkable medical history underwent surgical extraction of a wisdom tooth (no. 48). For this procedure, a high-speed air turbine drill was used, which inflates air in the root canal. After this procedure, the patient had mild dyspnea, and a physical examination showed right-sided facial and neck swelling. Chest radiography confirmed subcutaneous emphysema of the neck, upper thorax, and axillary regions (arrows) (Fig 1). Computed tomography of the neck and chest (Fig 2) demonstrated air in the subcutaneous and visceral spaces in the mandibular area, mediastinum (arrow), and pericardium. Standard laboratory tests produced normal results. The patient was admitted to the intensive care unit for prophylactic antibiotic treatment and spontaneous air resorption. The patient had an uneventful recovery and was discharged after 5 days. Six weeks later, chest radiography showed complete air resorption.

In general, subcutaneous emphysema, pneumomediastinum, and pneumopericardium can be secondary to trauma, infections, maxillofacial operations, and dental surgery. The use of high-speed dental air turbine drills can lead to the introduction of air or water into soft tissue spaces through the dentoalveolar membrane in the root canal [1]. The root canal can use the sublingual and retropharyngeal spaces to communicate with the mediastinum, and this can lead to secondary infection, pneumothorax, air embolism, pneumoperitoneum, optic nerve damage (owing to orbital emphysema), and cardiac tamponade [2].

In conclusion, this case illustrates that physicians should consider pneumomediastinum and pneumopericardium when a patient experiences with dyspnea, chest and back pain, subcutaneous emphysema, or Hamman sign after a dental procedure.

References
