A previously healthy 59-year-old woman presented to the emergency department with facial swelling and tenderness around the left eye, which developed 1 h after a root canal treatment of the lower third molar teeth under local anesthesia. She denied dysphagia, odynophagia, chest tightness or respiratory distress. A non-contrast enhanced computed tomography (CT) scan revealed extensive subcutaneous emphysema in the right neck and face (Figure 1), without evidence of pneumothorax or pneumomediastinum. The patient was given prophylactic antibiotics and recovered completely after 1 week.

Subcutaneous emphysema occurs when air or other gases are introduced into the soft tissues, leading to distension of the overlying skin or mucosa. The more usual causes include surgery, trauma, infection, and pneumothorax or pneumomediastinum. Although rare, it may develop after injection of pressurized air during dental treatment (especially the first, second and third molars). The air penetrates the soft tissue and may dissect the fascia and spread along the fascial planes to distant areas, resulting in subcutaneous emphysema or even life-threatening air embolism. Patients with subcutaneous emphysema usually recover spontaneously without complications, however, early detection and proper management is crucial to prevent complications.

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References