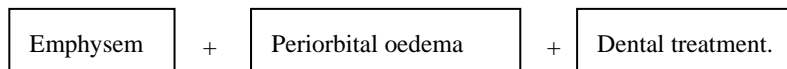


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內文：

Introduction

- ◎Surgical emphysema - Gas or air trapped in the subcutaneous tissue
 - Common causes giving this condition – Tracheotomy(氣切)
 - Direct laryngoscopy(直接喉鏡檢查)
 - Oesophagoscopy(食管鏡檢查)
- ◎Subcutaneous and mediastinal(縱膈) emphysema - have been previously reported after dental and oral surgical procedures, but remains a **rare**
- ◎There appears to be no evidence in the literature –



Case presentation

- ◎ A 55-year-old British Caucasian female
 - Root canal treatment for left upper molar tooth under local anaesthetic
 - Swelling and discomfort around left eye

An hour

- ◎ Accident and Emergency department
 - Diagnosed as **allergic reaction** to local anaesthetic,
 - Treated with **antihistaminic** and discharged

Six hour

- ◎ Accident and Emergency department
 - Inability to open her left eye due to severe
 - Periorbital oedema and surgical emphysema of left side of face and neck with a palpable crepitus



Periorbital oedema and facial swelling on left side



Surgical Emphysema over the face and neck



Periorbital oedema

- ◎ P't:
 - Not complain of respiratory distress, hoarseness, chest pain, dysphagia or odynophagia
 - Haemodynamically stable and afebrile
- ◎ Radiographs of chest, neck and face
 - No evidence of pneumothorax but lateral neck radiograph showed air in the prevertebral tissue
 - Surgical emphysema of the neck which had no connection with the chest
- ◎ A stat dose of [intravenous steroids](#) and [antihistamine](#)
- ◎ She was started on [prophylactic intravenous antibiotics](#) and admitted for observation

After 10 hours

- ◎ Showed signs of satisfactory recovery and partial opening of her eye

Next day

- ◎ She showed significant recovery with decreased periorbital oedema, surgical emphysema and was discharged home on oral antibiotics

About 10 days

- ◎ She recovered completely in about 10 days.

Discussion

- ◎Surgical emphysema is a known complication of root canal treatment
 ◎**Periorbital oedema** following a dental procedure is what makes this case report interesting

The causes of **surgical emphysema** -

- ★Traumatic facial injury,
- ★Rupture of pulmonary bulla,
- ★Prolonged surgical procedure,
- ★Direct injection of air during dental procedure- as in the case described in this report

- ◎Turnball in 1900 –

- ★First reported case of subcutaneous emphysema following a dental procedure described facial emphysema after premolar extraction

- ◎Earlier, less patient friendly dental **hand operated drills**

- ◎More efficient rotary drills in 1870

- ◎Electric dental drill

- ◎High speed -

- ★Air turbine drills used in dental surgery today are similarly associated with this complication
- ★Forcefully injected into surrounding subcutaneous tissues in the facial planes

- ◎The roots of the first, second and third molars communicate directly with the **sublingual** and **submandibular spaces**.

Sublingual space is also in direct communication with

- ★ Pterygomandibular space
- ★ Para pharyngeal space
- ★ Retropharyngeal space

- ◎After a dental procedure, the roots may give way to injected air and result in surgical emphysema

- ◎**In this case**

- ★ The oedema around the eye was not typical of surgical emphysema which has a characteristic **palpable crepitus**.

- ★The mechanism for this occurrence is not clear but may result in fluid being forced subcutaneously from the site of the dental treatment in the upper jaw

- ★The normal saline used during the procedure would most likely contain contaminants from the oral cavity, -- a risk of **infection**, which is why our patient was treated with **antibiotics**

Conclusion

- ◎ Unlike in other reported cases, our patient had none of the rarer, more serious or fatal complications of surgical emphysema following dental treatment such as
 - ★ Temporary auditory disturbances, 暫時聽覺障礙
 - ★ Orbital emphysema,
 - ★ Retinal artery collapse, 視網膜動脈損害
 - ★ Optic nerve damage, 視神經受損
 - ★ Tension pneumothorax or pneumoperitoneum 張力性氣胸 腹腔積氣
- ◎ It is not uncommon for patients to present to the Emergency department with dental problems for which accurate advice and specialist treatment may be lacking where local maxillofacial or dental surgical services are not immediately available
- ◎ These include post extraction bleeding and dental abscesses.
- ◎ This case highlights a rare but important complication of dental procedures that may attend the emergency department which can have serious consequences for the patient if not identified and treated promptly.

題號	- 題目
1	下列何者不是常見牙科治療後所引起 emphysema(氣腫)的原因 (A) After the use of compressed air by the clinician (B) After difficult or prolonged extractions (C) As a result of increased intraoral pressure (e.g., sneezing, blowing) after an oral surgical procedure (D) After Dexaltin application
答案(D)	出處: Oral and Maxillofacial PATHOLOGY P323
題號	題目
2	下列何者不適合當作根管治療的沖洗液? (A) Sodium Hypochlorite (B) Chlorhexidine (C) Ethylenediaminetetraacetic acid (D) Albothyl
答案(D)	出處: Pathways of the Pulp P318