PHOTO QUIZ

A woman with a swollen neck

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CASE REPORT

A 70-year-old female was admitted to the emergency department because of a mild stridor, a sore throat for the last 24 hours and difficulty in swallowing. She also reported difficulty in breathing at rest. Two months ago she underwent a dental extraction because of an abscess.

On physical examination, she was not in respiratory distress, but was uncomfortable because of pain. Her vital parameters were normal, but there was a mild stridor. Examination of the neck revealed a diffuse warm and tender bilateral swelling, which appeared more prominent on the left side. It was localised particularly in the submandibular space. Laboratory investigations showed a leukocytosis of 17.2 10^9/l (reference value 4 to 10 10^9/l) and neutrophilia, an elevated normal C-reactive protein level of 262 mg/l (reference value 0 to 6 mg/l), but were otherwise normal. A CT scan was performed (*figure 1*).

Figure 1. *CT scan: diffuse soft tissue swelling of the retropharyngeal space (asterisk) resulted in a pinpoint stenosis of the trachea (arrow)*

WHAT IS YOUR DIAGNOSIS?

See page 309 for the answer to this photo quiz.

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ANSWER TO PHOTO QUIZ (PAGE 308)

A WOMAN WITH A SWOLLEN NECK

DIAGNOSIS

Ludwig's angina was diagnosed based upon the classical description. The infection is always bilateral. Both the submandibular and sublingual spaces are involved.[1,2] The infection is a rapidly spreading cellulitis without abscess formation or lymphatic involvement. The CT scan showed diffuse soft tissue swelling of the retropharyngeal space. Our diagnosis was confirmed after surgical exploration of the area. The stridor in combination with the severe airway compression on CT scan were indications for subsequent urgent maintenance of the airway. Because of diffuse swelling of the airway, we considered it unsafe and impossible to intubate the patient. A surgical airway (trachea cannula) was inserted. The patient was treated with cefuroxime and metronidazole. After seven days of treatment the trachea cannula could be removed. The patient recovered uneventfully.

Ludwig's angina is a rapidly spreading cellulitis, starting in the floor of the mouth involving the submandibular space, caused predominantly by anaerobes and Gram negative rods. A total of 70 to 85% of cases of Ludwig's angina follow infection of the second or third mandibular molar teeth. Once established, infection evolves rapidly. The tongue may enlarge to two or three times and distend into the hypopharynx, against the palate and out of the mouth. Extension of the process could involve the epiglottis, the parapharyngeal and retropharyngeal space and finally extend into the superior mediastinum.[1] Stridor and cyanosis are considered ominous signs. Radiographic views of the teeth may indicate the source of infection, and lateral views of the neck will demonstrate the degree of soft tissue swelling around the airway and possible submandibular gas.

Surgical drainage will reduce the risk of spread to the parapharyngeal space and the superior mediastinum. If cellulitis and swelling continue to advance or if dyspnoea occurs, artificial airway control should be gained immediately. Intubation of these patients must be regarded as a potentially difficult procedure. We prefer intubation in monitored conditions with all the equipment for the intubation of a compromised airway and a prepared team capable of performing an immediate coniotomy or tracheotomy.[3]

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