

Ludwig's Angina: A Case Report

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Abstract:

Ludwing angina is defined as progressive cellulitis of the submandibular space. It is a deep neck space infection. The two compartments affected are the sublingual and sub mylohyoid space. It progresses rapidly and needs to be addressed urgently. Early identification and initiating treatment will aid in reducing morbidity and mortality.

Introduction:

Ludwing angina is an infection that spreads rapidly. It is a cellulitis of the submandibular space that spreads to the structure of the anterior neck and beyond if it is not addressed on time. Usual symptoms are fever, poor oral intake, dysphagia, odynophagia, difficulty in mouth opening, shortness of breath, changes in voice, and neck swelling. Predisposing factors include dental infections or caries, systemic illnesses such as diabetes mellitus, malnutrition, immunocompromised persons, and those who have poor dental hygiene. The most common pathogen isolated are Streptococcus viridians and Staphylococcus aureus. Anaerobes are also frequently isolated, for example, diphtheroid and Bacteroides. Advanced infection, results in life-threatening airway compromise that can lead to death.

Case Report:

A 58 years old Malay gentleman presented with left submandibular and submental swelling for the past 6 days. The swelling started at the submental region, and then progressively extended to the left submandibular region. He complained of pain over the swelling from day 1 of the illness and started developing a fever on day 3. Due to pain, his oral intake was reduced. He had a history of toothache 2 weeks before the incident visited a dentist and was given oral antibiotics to complete for 1 week. He was diagnosed with Diabetes Mellitus 5 years ago and due to poor glycaemic control, he was started on an insulin regime. He was also recently diagnosed with Hypertension and is on antihypertensive medication. On examination, he is a moderately built man. Hydration was poor with evidence of dry coated tongue and decreased skin turgor. He had limited mouth opening. Oral cavity examination revealed a raised floor of the mouth and other subsites appear normal. Neck examination shows diffuse swelling extending from the left submandibular region to the submental region, which was warm on palpation, tender, overlying skin appears erythematous and size about 8cmx7cm. No area of fluctuation or punctum was seen. Other ears, nose, and throat examination was unremarkable. Flexible nasopharyngolaryngoscopy scope revealed normal upper airway structure.

The patient was admitted and started on broad-spectrum intravenous antibiotics. Adequate analgesics were started due to the pain and hydration was initiated in view of poor oral intake and limited mouth opening. The patient was also referred to the dental team for an opinion, and their examination revealed an infected

wisdom tooth, which was partially treated. He responded well to intravenous antibiotics, which were given for 7 days . He was scheduled for extraction of the wisdom tooth 6 weeks after the infection settled.

CT neck shows (image 1a, 1b and 1c) shows features of Ludwig angina with inflammatory changes of the left neck space and cervical lymphadenopathy.

Image 1a

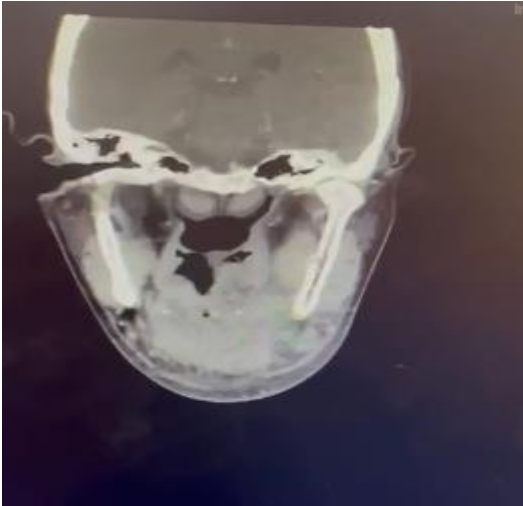


Image 1b

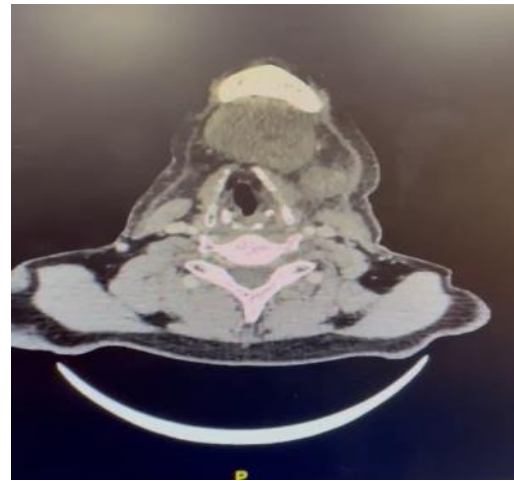


Image 1c





Image 1d and 1e: patient on presentation to the emergency department.

Discussion:

Ludwig angina is a deep neck space infection that should be addressed immediately. The source of infection is usually odontogenic. If the source of infection is dental cause, a dental consult is warranted to address the infection. Medical treatment, airway management, broad-spectrum antibiotics, and close observation is essential to prevent the deterioration of the patient. Imaging such as a Computed tomography scan can aid with the management especially if an abscess or a collection is suspected.

Conclusion:

Prompt diagnosis and initiation of treatment are crucial when a patient is diagnosed with Ludwig angina. Early initiation of antibiotics can reduce morbidity and mortality and prevent worsening of infections. Ludwig angina is an infection that spreads rapidly and the main concern will be upper airway compromise that will need urgent surgical intervention.

Ludwig's angina is a fatal condition and early diagnosis and proper management suited to each individual can limit morbidity and mortality.

Reference:

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3. Scott-Brown's Otorhinolaryngology