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Case Report

Silent but Deadly: A Case Report on Rapidly Progressive Ludwig's Angina

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Abstract:
Ludwig's angina is a bacterial infection of the tooth involving tongue and floor of the mouth. It can be life-threatening if not treated promptly. is a rapidly progressing, potentially fatal cellulitis involving the submandibular, sublingual, and submental spaces. Characterized by diffuse, brawny swelling of the floor of the mouth and neck, it can quickly lead to airway compromise if not recognized and treated promptly. Although uncommon, its fulminant nature makes early diagnosis and aggressive management critical. Treatment includes IV antibiotics and, in some cases, surgical intervention. In this report, we describe a case with an unusual presentation. Early recognition of the condition in such cases is vital to prevent potential complications.
Keywords: Ludwig's angina, bacterial infection, airway obstruction, Neck infection

Introduction

Ludwig angina (LA) is a potentially lethal acute cellulitis of the floor of the mouth andsubmandibular space. It rapidly spreads to infiltrate the soft tissues of the neck, producing a suprahyoid brawny induration with posterior and superior displacement of the tongue. This condition is usually polymicrobial, with the most common culprit microorganisms being Streptococcus, Bacteroides and Staphylococcus. Although LA is an uncommon entity, it is a clinical emergency. Unless recognized promptly and treated vigorously, it may progress to a fatal outcome due to suffocation. it is a serious complication of an infection of the lower molar teeth that can quickly develop into lethal upper airway obstruction. Odontogenic infections are responsible for most cases, with a few rare instances caused by tongue piercings, mandibular fracture, otitis media, and sialolithiasis of the submandibular glands.Organisms thatinvolve are polymicrobial in nature, involving a combination of Gram-positive, Gram-negative and anaerobic microorganisms. Streptococcus viridans and Staphylococcus aureus are the most common organisms isolated as these are frequently associated with oral and skin flora.

Case Report

A 38 years old female patient reported to department of oral medicine and radiology, St. Joseph dental college, Duggirala, Eluru with a chief complaint of pain in the right lower back tooth region since 2 weeks. Patient gave history of severe pain while chewing food and history of unable to open the mouth, pain relieves by medication. history of fever since 1 week and history of topical application of Zand balm, patient gave history of pain since 2 weeks in right lower back tooth region and mild swelling is evident at that time, also gave history

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of underwent removal of tooth in right lower back tooth region which is eventful and under medication for 1 week. After extraction sever pain and swelling is initially small in size and increased to attain present size. On extraoral examination on inspection reveals a diffuse swelling of sized approximately 4x4cm involving lower third of face and extending anteroposterior from lower border of chin to Adam's apple and mediolaterally right sternocleidomastoidmuscle to left sternocleidomastoid muscle and involving mid line. No secondary changes are evident (fig-1,2,3). On palpation all inspector findings are confirmed on palpation. Swelling is tender on palpation, non-compressible, non-reducible, and hard in consistency. Localized raise in temperature is evident. Skin over swelling is shiny.no secondary changes are evident.

Figure 1,2,3: Patient face profile pictures, Ludwigs angina involving anterior portion of neck

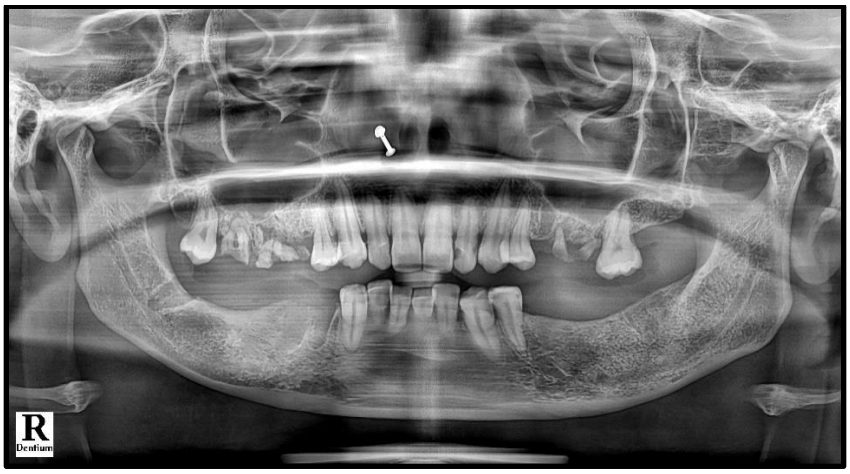

Figure 4: Orthopantomogram

Investigations advised OPG and revels extraction socket irt 44,45,48. Root stumps with periapical abscess irt 15,16,17 and root stump irt 26. Dentinal caries irt 22,32,33. Missing tooth irt 25,28,35,36,37,38,46. Medication advised CAP AMOXICLAV (625mg) twice daily for 5 daysafter food(amoxicillin 500mg+ potassium clavulanate 125mg), TAB. HIFENAC Ptwice daily for5 days after food(aceclofenac 100mg + paracetamol 325mg),TAB. PANTOP (40mg) once daily for5 days before food(pantoprazole 40mg), TAB. METRONIDAZOLE 400mg, twice daily for 5 days. Patient is referred to oral and maxillofacial surgery department for airway protection and treatment of the infection.

Discussion

Ludwigs angina and deep neck infection are dangerous because they lead to edema, distortion and obstruction of airway, Wilhelmfriedrich von Ludwig was described that Ludwigs angina is a gangrenous induration of the connective of the neck that advanced to involve the tissues that covers the small muscles between the larynx and the floor of mouth. Ludwigs angina involves in three components of oral cavity including submental, submandibular, and sublingual spaces bilaterally. In this

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case presented the infection mainly occurred in right side and later speeded bilaterally.This condition can lead to unable to open the mouth and severe pain.In this present case Ludwigs angina is developed immediately after first aid treatment of the extraction of tooth and presence of root stump in the upper tooth region.after removal of tooth doesn't maintain the proper protocol.it may lead to dry socket condition. The management of Ludwigs angina is based on the principles of airway protection and treatment of the infection. In some major conditions respiratory failures are also seen due to airway obstruction is the most serious complication that happens. Intravenous antibiotics without any surgical management are the best option for managing the early stages of Ludwig's angina.

Conclusion

Although rare, Ludwig's angina is a life-threatening condition. Poor oral hygiene can lead to Ludwig's Angina. Early diagnosis, airway management, treatment with broad-spectrum antibiotics, and surgical intervention are vital for successfully managing Ludwig's angina with extensive soft tissue involvement.

References

1. Romero J, Elkattawy S, Romero A, Latif A, Al-Fiky E, Al-Nasseri A, Noori MA, Al-Alwani K. Ludwig's Angina. Eur J Case Rep Intern Med. 2022 Jun 1;9(6):003321.
2. Kovalev V. A severe case of Ludwig's angina with a complicated clinical course. Cureus 2020 Apr 16;12(4):e7695.
3. Sakhuja A, Shrestha DB, Aryal BB, Mir WAY, Verda L. Rare Angina: A Case Report of Ludwig's Angina. Cureus. 2022 Jun 12;14(6):e25873.
4. Nguyen VD, Potter JL, Hersh-Schick MR. Ludwig angina: an uncommon and potentially lethal neck infection. AJNR Am J Neuroradiol. 1992 Jan-Feb;13(1):215-9.
5. Papadopoulos C, Wong A, Choi J, Cheung WS: Ludwig's Angina - A Case Report. 2017.
6. Singh K, Devi P, Devi B: A case report of Ludwig's angina. International Archives of Integrated Medicine. 2015, 2(10):46-48.
7. Lin QL, Du HL, Xiong HY, Li B, Liu J, Xing XH. Characteristics and outcomes of Ludwig's angina in patients admitted to the intensive care unit: a 6-year retrospective study of 29 patients. J Dent Sci 2020 Jan 10;15(4):445–450.