

Case Report

Child Birth during Ludwig's Angina - A Case Report

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Abstract

Ludwig's angina is one of the serious life threatening conditions that can arise from odontogenic infections if not properly managed in high risk patients. Although it is considered rare during pregnancy, few cases have been reported. Pregnancy is associated with many physiological changes in the body that can lead to serious complications even from minor dental infections. In this article we present a case of a 27 year old, 32 week pregnant lady who presented with swelling around the left jaw and left neck, difficulty in breathing and swallowing since one day before attending.

Incision and drainage of the abscess and sessions of debridement were commenced for the deep neck spaces. Surgical debridement and intravenous antibiotics along with adequate fluid resuscitations improved the health of the patient before she was discharged.

Keywords: Ludwig's angina; Odontogenic infections; Mylohyoid muscle

Introduction

Wilhelm Frederick von Ludwig described an infection extending from the posterior border of the mylohyoid muscle and involving the submandibular, sublingual, and sub mental spaces. The infection starts in either the submandibular or the sublingual spaces and then spreads to involve larger area; it begins as a cellulitis, then turns into fasciitis, and finally becomes a true abscess [1]. For most cases, it is associated with a preceding odontogenic infection, peritonsillar abscess, or fractured mandible. The basic management protocol of Ludwig's angina has three objectives: securing the airway, antibiotic cover, and surgical drainage.

Metabolic control and fluid replacement are important adjuncts. The period of pregnancy is commonly associated with psychological and physiological changes and linked to high incidence of poor oral hygiene, dental caries, and subsequent infection. Pregnant women show greater risk of developing dental caries for several reasons [2]. Untreated oral infection during pregnancy can lead to severe septic complications and an increased risk of adverse foetal outcomes has been reported [3]. Although the incidence during pregnancy is low; a few cases of Ludwig's angina during pregnancy have been reported in the literature [4]. Although many elective procedures may be delayed until the baby has been delivered, several circumstances exist in which care cannot be postponed, including those involving trauma, acute infections, severe dental pain due to impacted teeth (pericoronitis), and benign and malignant tumours [5]. Because of a fear of harming either the mother or unborn child, some practitioners may withhold care or medications from their patients, inadvertently causing more harm. An understanding of the patient's physiologic changes, the effects of chronic infection, and the risks or benefits of medications

is necessary to adequately advise a patient [6]. We present a case of Ludwig's angina along with deep neck space infection in a young pregnant lady who had to deliver after 13 days (expected date 26 October). The lady was treated by multiple surgical debridement's and extraction of causative tooth under local anaesthesia and appropriate antibiotics was given.

Case Presentation

A 27 year old, 32 week pregnant lady reported to ER department with difficulty in breathing and swallowing one day before the presentation, but the swelling around the left jaw and neck had been present for a week. Oral and maxillofacial surgery consultation was sought in view of suspected Ludwig's angina because of a large swelling over the left neck and jaw, and slightly difficulty in breathing (Figure 1). An emergency surgery was planned for incision and decompression under local anaesthesia to relieve the pressure on the airway. Following safe precaution, Ludwig's angina was attended wherein offending deeply carious left lower second molar and unilateral extra oral sub mandibular and sub massetric incisions and buccal incision intra orally were placed to release the contents of the cellulitis over the left jaw (Figure 2) and lower chin on the same side (Figure 3). The antibiotic regimen started postoperatively included intravenous ceftriaxone 1 g tow times daily, metronidazole 500 mg three times daily and paracetamol 1g one if she need it and adequate hydration.

Photograph of the patient at the emergency triage showing large swelling over the left jaw and lower chin on the same side. Rubber drains were secured at all the incision sites to ensure patency for drainage. Three days, post-operatively, patient's condition improved gradually with improvement in swallowing and speech. The patient gave birth on the fourth day after operation with normal delivery. The patient continued her intravenous antibiotics and daily dressing and there was significant improvement with relief in symptoms. The patient discharged from the obstetric hospital after 24 hours with Subsequent follow up visits were uneventful for the patient.

Discussion

Since its first description by WF von Ludwig in 1836, as a rapidly progressive deep gangrenous cellulitis of the soft tissues of the neck and floor of the mouth involving the submandibular and sublingual

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Figure 1: Ludwig's angina over the left neck and jaw.



Figure 2: Ludwig's angina over the left jaw.



Figure 3: Ludwig's angina lower chin on the left side.

spaces, Ludwig's angina remained a condition affecting usually patients with poor dental hygiene. The clinical presentation consists of malaise, dysphagia, bilateral cervical swelling, neck tenderness, dysphonia, elevation and swelling of the tongue, pain in the floor of the mouth, sore throat, limited neck movement, and stridor leading to airway obstruction. Ludwig's angina is usually caused by mixture of aerobic and anaerobic bacteria. Grodinsky in 1939 proposed some criteria for diagnoses; being bilateral in more than one space; presence of gangrenous, serosanguinous, putrid infiltration with little or no pus; involving connective tissue, fascia, muscle, but rarely glandular structures. It spreads by direct continuity not by lymphatics or hematogenously.

The Pregnancy is usually associated with many changes in the body. The oral cavity is seriously affected by these changes. Every

pregnant lady should be encouraged to seek medical and dental care, as failure to treat developing problems affects the health of both the mother and the unborn child. Dental care professionals should be educated about the physiologic changes of pregnancy, use of medications or illicit drugs or substances during gestation, and their influence in the delivery [7].

Odontogenic infections and abscesses due to gram-positive and gram-negative bacteria produce many exotoxins, cytotoxic enzymes, affecting the entire physiological system [8]. Securing the airway along with prompt antimicrobial therapy and efficient surgical decompression may be a plausible alternative in pregnant patients [9]. The goal is to avoid use of teratogenic drugs, prevent foetal hypoxia or acidosis, and avoid spontaneous abortion early in pregnancy and prevention of premature labour later in pregnancy [10]. After the airway is secured and anaesthesia is achieved the next step is to evacuate the contents of cellulitis resulting in decompression and release of pressure over the airway and other vital structures in the neck. It is believed that the improvement of local perfusion, the decrease of hydrostatic pressure, and the introduction of superficial mucosal flora are factors that help to decrease the spread of the invading pathogens [11]. The role of antibiotics and other medical support cannot be overemphasized in these cases.

Conclusion

To conclude, surgical intervention in a pregnant patient may seem risky, but it may save that patients' life if all steps and protocols are followed properly.

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