

Management of Upper Airway Obstruction caused by Fungal Ludwig's Angina in Lokoja, Nigeria

S. A. Ogah¹, O. Adeosu², A. O. Okomanyi³

¹Consultant Otolaryngologist, Head and Neck Surgeon, O.R.L Division, Department of Surgery,
Federal Medical Centre, Lokoja Kogi State, Nigeria
Email:stephenogah {at} yahoo.com

²Consultant Maxillofacial Surgeon, Department of Dentistry,
Federal Medical Centre, Lokoja Kogi State, Nigeria

³Medical Officer, O.R.L Division, Department of Surgery,
Federal Medical Centre, Lokoja Kogi State, Nigeria

ABSTRACT--- *Ludwig's angina is a life threatening infection involving the floor of the mouth and submandibular region which has the potential to cause upper airway obstruction if not adequately managed. The cellulitis progressed very fast to involve the major deep neck spaces and is associated with fever, malaise, tender swelling of the floor of the mouth and occasionally can cause upper airway obstruction. The majority of cases respond well to conventional antibiotic usage, hence, most cases do well on medical management.*

We report this case of fungal Ludwig angina in a 32years old man, who was referred to our hospital due to none response to treatment with antimicrobial agents, with signs and symptoms of progressive upper airway obstruction. Patient had tooth extraction two weeks prior to his presentation and was also on antibiotics for two weeks.

His past medical history did not show that he was on steroid therapy at any time or had any co-morbid condition that could have depressed his immunity and his HIV status was negative.

On physical examination, we found a young man with bull neck and in obvious respiratory distress. Had multiple submental punctured wounds with plastic drains oozing blood projecting from the wounds. He was febrile to touch, anicteric and not pale. Throat examination revealed severe trismus, swollen base of the tongue and poor visualization of the oropharynx.

A soft tissue neck plain radiograph showed a narrowed upper airway air column due to soft tissue swelling in the pharynx.

He was then resuscitated and given emergency tracheostomy to secure the airway and specimen taken for microscopy, culture, sensitivity and fungal studies which showed later that the angina was caused by fungal infection. Patient did well on six weeks course of amphotericinB and was decanulated with no sequelae.

Keywords--- Fungal, Ludwig angina, Management, Obstruction, Upper Airway

1. INTRODUCTION

Ludwig's angina is infection involving the floor of the mouth and the deep neck spaces which has the potential to cause upper airway obstruction if not managed well [1]. In 1836 Wilhelm Frederick von Ludwig described the disease as a rapidly progressing cellulitis characterized by malaise, fever, tender swelling of the floor of the mouth, dysphagia and dyspnea. It has been documented in literature that the disease commonest cause of mortality is upper airway obstruction [2]. A large proportion of the disease developed as a complication of second or third molar tooth infection [3]. A few can result from other minor injuries to other structures in the mouth.

The microbiology is usually poly-microbial in nature and these may include both gram positive and negative organisms, which may be aerobes or anaerobes. Common isolates include streptococcal species, staphylococcus aureus, prevotella among others [3].

Treatment invariably consists of securing the airway where necessary, aggressive broad-spectrum antimicrobial therapy in the case of bacterial infection, antifungal therapy in the case of fungal infection and surgical decompression of the facial planes with removal of necrotic tissues if necessary [4-5].



This man had tracheostomy due to airway obstruction following severe Fungal Ludwig's angina (FMCL).

2. DISCUSSION

Due to the ability of the disease to cause upper airway obstruction if not closely monitored, it is important that such patients are admitted by the Physician that saw them first for close monitoring. Then, the Otolaryngology unit should be invited to review and monitor the airway as treatment progresses. This will ensure that adequate preparation is made for airway diversion when the need arises so as to save the patient life [1]. It has been shown that airway compromise is the commonest cause of death in this patient [2]. Since large proportion of the disease developed as a complication of second or third molar tooth infection, it is important that we refer our patient with teeth problems to the dentist without delay for proper treatment [3]. Other factors like submandibular sialadenitis, parapharyngeal and peritonsillar abscesses can be adequately taken care of by the Otolaryngologist [4-5].

Patients found to have depressed immunity such as diabetes, HIV infected persons and those on long term steroids therapy should be given greater attention as they have a higher risk [6-7]. Treatment invariably consists of securing the airway where necessary, aggressive broad-spectrum antimicrobial therapy in the case of bacterial infection, antifungal therapy in the case of fungal infection and surgical decompression of the facial planes with removal of source of infection if necessary [8]. Should you find yourself in the management of Ludwig's angina with little or no response to the antimicrobial agents, consider ruling out the rarer case of fungal infection.

Priority should be given to airway maintenance when treating these patients with Ludwig's angina, as the most common cause of death is either airway obstruction or aspiration of purulent material from the infected region. In pre-antibiotic era, the mortality was higher than 50% and this has dropped considerably below 8% in recent years. However, with mediastinum, carotid sheath, skull base and meningeal involvement this will increase up to 50% [9]. Tracheostomy is a life saving surgical procedure that should be carried out when patient is not responding well to conservative management as this will serve as a bypass of the obstruction and also prevent the aspiration [10].

3. CONCLUSION

Ludwig's angina is a surgical emergency that requires early diagnosis and prompt treatment to prevent life threatening upper airways obstruction. Although microscopy, culture and sensitivity test are important, but one should have an open mind so as to include a fungal studies as the infective agent might be fungi that may not respond to antimicrobial agents.

4. REFERENCES

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