|| ISSN(online): 2589-8698 || ISSN(print): 2589-868X ||

Available online on http://www.ijmbs.info

International Journal of Medical and Biomedical Studies; 2024; 8(3); 45-51

A Case Report

Management of Severe Odontogenic Infection: Case Report

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Received: 18-04-2024 / Revised 20-05-2024 / Accepted 10-06-2024
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DOI: **https://doi.org/10.32553/ijmbs.v8i3.2796**
Conflict of interest: Nil

Abstract:

Introduction: Submandibular abscess caused by odontogenic infection is a frequent case, but in some cases it can be deadly because it spreads and blocks the respiratory tract. The purpose of this study is to described a case of fatal submandibular abscess with early management effective.

Case report: A 46 years old male patient with complaints of left submandibular, submental, left buccal and left temporal swelling. History of systemic disease was denied. Patients complain of tightness and changes in voice. Therapeutic intervention consists of Covid- 19 screening, complete blood lab, abscess decompression under local anesthesia, left submandibular and submental through and through drainage incisions, drainage incisions in the buccal area as well as multiple tooth extractions and penrose drain applications both extra oral and intra oral carried out in general narcotics, and swab culture sensitivity and antibacterial resistance tests were carried out. The antibiotics given were ceftriaxone and metronidazole. The patient was followed up and showed good general condition and decreased swelling.

Conclusion: Odontogenic infections that spread and block the respiratory tract can be deadly. The abscess can expand even more quickly during preparation for surgery. Decompression of an abscess can be an effective treatment so that the abscess does not spread further and can reduce the risks of the operation being carried out. The management carried out must be complete and comprehensive, in this case a drainage incision and extraction of the focal infection are carried out. Initially, broad spectrum antibiotics can be given, but if the results of the antibacterial resistance test are obtained, it is very important to give more specific antibiotics. Submandibular abscess with poor prognostic consequences obstructed respiratory tract must be treated immediately and closely monitored.

Keywords: Abscess, Odontogenic infection, Decompression

Introduction

Odontogenic infections are commonly encountered in daily dental practice. Infection This can cause discomfort, pain, difficulty opening the mouth, etc until the

infection spreads and can become life-threatening. Odontogenic infections can be caused by poor oral hygiene and left chronically. Initial treatment is mandatory carried out is early diagnosis, appropriate antibiotic therapy, surgical intervention to respiratory tract management.[1] We need to pay closer attention to widespread odontogenic infections can be life threatening such as expansion of the retropharynx and parapharynx which can obstructing the airway with more aggressive treatment thereby increasing morbidity patient.[2] The case we describe is one of the interesting cases of abscess left submandibular area showing extension into the buccal, temporal, submental, sublingual to retropharyngeal and parapharyngeal. The patient is planned to undergo surgery surgical intervention incision drainage in general narcotics as well as to secure the airway Preoperative tracheostomy is planned. Decompression measures are carried out during preparation preoperatively to relieve pressure on the expanding abscess after decompression carried out changes in the flow of plans and the course of operations.

Case Report

A 46 year old male patient presented with complaints of swelling in the jaw lower left side which extends to the left cheek, left temple, chin and floor of the mouth. About 2 weeks before entering the hospital, the patient complained of toothache in the lower jaw rear left. About 5 days before the hospital, swelling occurred in the left lower jaw, then the swelling enlarges and extends to the cheeks, temples, chin and floor of the mouth (shown in figure 1). The patient came to the hospital with shortness of breath and limited mouth opening. Anamnesis was carried out with the results of no history of dental treatment and clinical examination The causative tooth was found to be tooth 38 with pulp necrosis and a hot sound potato voice, hoarseness and painful swallowing. The patient denied any systemic disease.

Figure 1: Clinical picture

The patient arrived fully conscious with a temperature of 36.8 o C. Facial asymmetry seen due to swelling in the left submandibular area extending to the left buccal, left temporal, submental and sublingual. The findings in the patient's laboratory results are: leukocytosis (25,570 /uL) and anemia (12.7g/dL) and findings on soft tissue x-rays. The neck showed retropharyngeal thickening in the C2 region with 19mm and left parapharyngeal thickening, thus pushing the air column towards the right (shown in figure 2). Patient diagnosed with left submandibular abscess extending to the

buccal, temporal, submental, sublingual, retropharyngeal and parapharyngeal due to pulp necrosis 38. Patients It is planned to undergo incision and through and through drainage surgical intervention left submandibular and submental as well as buccal, sublingual, retropharyngeal and drainage incisions left parapharyngeal joint operation with ENT-BKL department in general narcotics with tracheostomy Pre-operatively to secure the airway, request the Anesthesia department for safety operation.

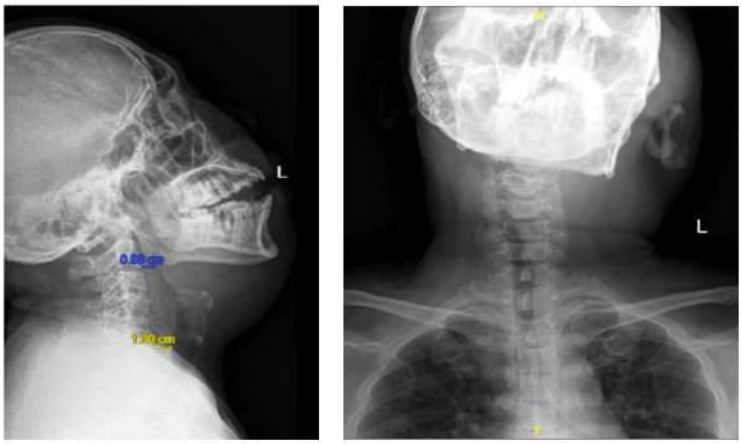

Figure 2: ***Soft Tissue Neck x-ray*** results

Antibiotics are given with the antibiotic options *ceftriaxone* and *metronidazole,* and decompression was carried out by tapping the pus in the area left submandibular, buccal, temporal, submental and sublingual before the patient rises to the room surgery with the aim of reducing pressure due to swelling that is pressing on the airway, A total of approximately 10 cc of Serroussanguin was obtained (shown in Figure 3). After After decompression, the patient feels less short of breath and feels easier to breathe. When the patient went up to the operating room, the tracheostomy was not carried out due to pressure on the patient. The airway is already minimal so intubation can be done without a tracheostomy as wellwith incisions in the parapharynx and retropharynx, were not carried out due to intra-assessment surgical swelling of the retropharynx and parapharynx is minimal.

Figure 3: Pussy tapping and decompression

Incisions were made in the operating room on: left submandibular, submental, intraoral buccal and floor of the mouth followed by extraction of the causative tooth and adequate drainage as well penrose application both extraoral and intraoral (shown in figure 4). Furthermore the patient was hospitalized for 5 days and the wound was cleaned and monitored every time days (shown in figures 5, 6 and 7). The antibiotics given during treatment are ceftriaxone and metronidazole.

Figure 4: Abscess drainage incision, Penrose drain application and extraction of the causative tooth

Figure 5: Post-incision drainage on the first day

Figure 6: Post-incision drainage on the third day

Figure 6: Post-incision drainage on the fifth day

The patient was sent home after the swelling, pus production was much reduced and the mouth opening was much better. The patient was hospitalized for 5 days. Furthermore, the patient had regular control via outpatient care with very good development results (shown in Figure 7). There were no complaints of pain or difficulty opening the mouth.

Figure 7: Post-incision drainage on day 20

Discussion

Submandibular abscess is an inflammation accompanied by the formation of pus submandibular area. This abscess can fill the submandibular, submental, sublingual and submandibular spaces can spread to the retropharynx or parapharynx. This condition is an infection of the inner neck (deep neck infection).[3] Management of lower neck infections can be difficult due to its complex anatomy and the possibility of life-threatening and complications that may occur.[1] One of which can occur in submandibular abscess is upper airway obstruction (OSNA) and requires tracheostomy to secure the airway.[4] There is a pattern of spread caused by dental infections through the fascia that can occur creates a potential space for abscess formation. Anatomical variations and various sources of teeth causes will influence the choice of incision and drainage approach, description. The possible spread is depicted in Figure 8.5 Retropharyngeal and parapharyngeal spaces. This is one of the high risks of complications, namely that it can block the airway and as a way to spread to the mediastinum, as well as installing a tracheostomy if complications occur, it can spread the abscess wider to the mediastinum.[6]

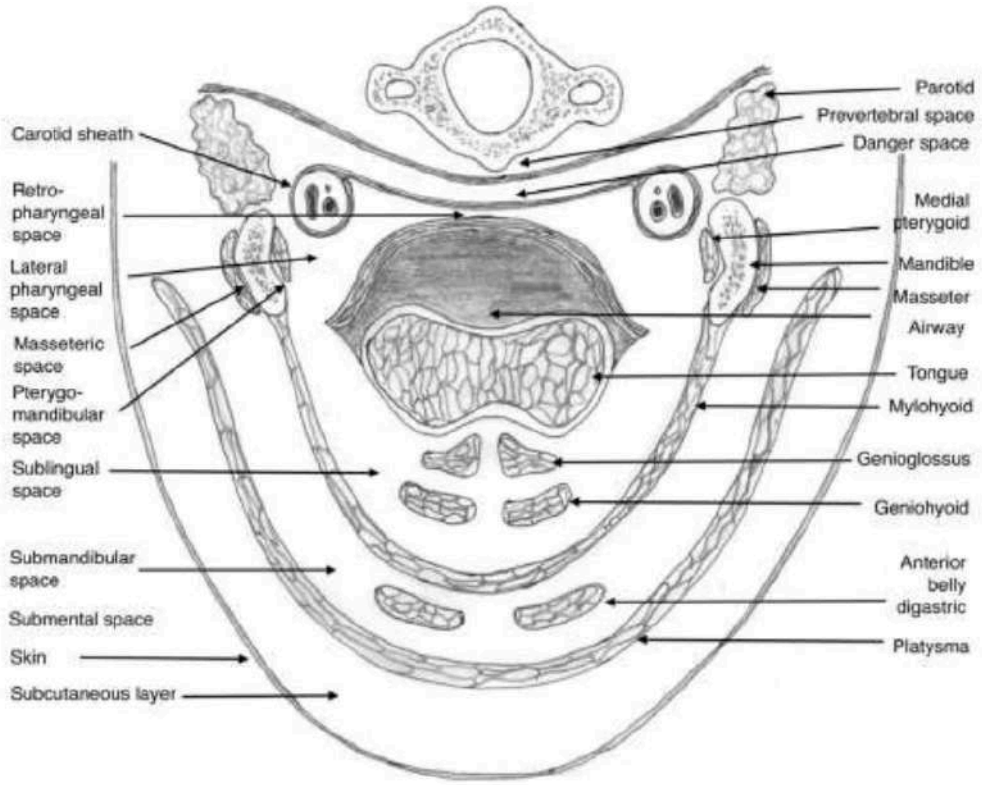

Figure 8: Potential fascial spaces in the head and neck

The main goal of management in patients with submandibular abscess is to prevent the occurrence of complications from the spread of abscesses and management of orofacial infections (incl submandibular space infection) includes surgical intervention to drain the puslocalized as well as post-operative supporting factors such as antibiotics and analgesics.3

Conclusion

Infection in the submandibular space is very risky for patients, especially if the swelling in the abscess extends to the retropharynx or parapharynx and becomes blocked airway. If there is upper respiratory obstruction, a tracheostomy can be performed to save the airway, but tracheostomy has complications toosuch as further spreading the infection to the mediastinum, thus making the patient's condition worse. Incision and drainage is the gold standard for submandibular abscesses, this can be done under local anesthesia or in the operating room, but to prepare the patient for actions are taken, such as checking blood labs, preparing the operating room and so on. On the other hand, it can be time-consuming and can aggravate the patient'scondition and be life-threatening patient.

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