



# MANAGEMENT OF SUBMANDIBULAR AND TEMPORAL ABSCESS DUE TO MULTIPLE ODONTOGENIC INFECTIONS : A CASE REPORT

A.M. Putri, Department of Oral and Maxillofacial Surgery, RSUP Dr. Hasan Sadikin, Faculty of Dentistry, Padjadjaran University, Indonesia

H.Y. Yusuf, Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Padjadjaran University, Indonesia

M. Sylviana, Department of Oral and Maxillofacial Surgery, RSUP Dr. Hasan Sadikin, Faculty of Dentistry, Padjadjaran University, Indonesia

Email : atikahmawardhani@gmail.com



## INTRODUCTION

Odontogenic infection is one of the common infectious diseases in oral and maxillofacial head and neck regions. Clinically, if early odontogenic infections are not treated timely, effectively and correctly, the infection may perforates the alveolar bony and spread up to the areas through the natural potential fascial space in the oral and maxillofacial head and neck, even can spread to multi space (5). The temporal space could be grouped as masticator space. Masticator space lies inferiorly to submandibular space that explain the relations between temporal space and submandibular space. The extension of infection into the masticator space can extend superiorly against gravity (6). The current case report describes the management of a rare case of a submandibular space infection extending to temporal space.

## OBJECTIVE

A 54 years old male patient came to Emergency Department of Hasan Sadikin Hospital Bandung with swelling at left lower jaw extended to left temporal region. About 1 month prior to admission, the patient complained swelling at left lower jaw then he went to private clinic at Soreang area, and was given 3 kinds of medicine (the patient forgot the name of medicines). About 2 weeks prior to admission, the patient complained of swelling at left lower jaw and left temporal got bigger with difficulty opening mouth then he went to general hospital at Soreang area and was given 3 kinds of medicine (patient forgot the name of medicines), because of there was no improvement the patient was brought to Hasan Sadikin Hospital Emergency Department for further treatment. History of systemic diseases was denied

### Initial Assesment

Swelling at left lower jaw with 3x3x2 cm in size extended to left temporal region 6x4x2 cm in size



Laboratory Findings			
1. Hematology			
• Hb	: 12.5	M(14 – 17.4)	g/dL
• Ht	: 35.9	M(41.5 – 50.4)	%
• WBC	: 21,080	(4,400-11,300)	/mm <sup>3</sup>
• RBC	: 4.44	M(4.5 – 5.9)	million/uL
• Platelet	: 480,000	(150,000-450,000)	/mm <sup>3</sup>
2. Chemical blood component			
• Uream	: 14.9	(15-39)	mg/dL
• Sodium (Na)	: 133	(135-145)	mEq/L
• Potassium (K)	: 3.3	(3.5 – 5.4)	mmol/L

### Post Operation



Application of penrose drain extraoral at submandibular and temporal region  
Extraction of teeth 11,12,13,14,15,16,17,23,24,25,26,27,28,31,32,34,35,38,41,42,44

### Post Operation Day IV



Culture Sensitivity and Antibacterial Resistance Result	
ISOLATE 1 Streptococcus agalactiae	
Susceptibility isolate 1 : Ceftriaxone	
Ampicillin	Sensitive
Cefotaxime	Sensitive
Chloramphenicol	Sensitive
Levofloxacin	Sensitive
Moxifloxacin	Sensitive
Co-trimoxazole	Sensitive
Tigecycline	Sensitive
Vancomycin	Sensitive
Clindamycin	Sensitive
Erythromycin	Sensitive
Linezolid	Sensitive
Benzylpenicillin	Sensitive
Tetracycline	Sensitive

## DIAGNOSIS

- Submandibular abscess extended to left temporal region due to gangrene ulup of tooth 38
- Chronic apically periodontitis due to necrotic pulp of teeth 17,26,27,34,31,41,42 and radices of teeth 16,15,14,13,12,11,23,24,25,28,35,32,44.

## TREATMENT

- Complete blood count with the results were leukocytosis, trombocytosis, decrease of electrolyte
- Rapid test for Covid 19 with non reactive result
- Intravenous medication with ceftriaxone 1 gr, metronidazole 500 mg, keterolac 30 mg, and omeprazole 40 mg for 4 days
- Incision drainage at left lower jaw and left temporal region under local anesthesia
- Check culture sensitivity and antibacterial resistance

## RESULT

The successful management of multi space orofacial odontogenic infections involves identification of the source of the infection, the anatomical spaces encountered, the predominant microorganisms that are found during the various stages of odontogenic fascial space infection, the impact of the infectious process on defense systems, and the ability to use and interpret laboratory data and imaging studies (2,4,5). In this case, a drainage incision was performed in the left submandibular and temporal region. Odontogenic infection is treated surgically, pharmacologically, or by medical support of the patient, including removing the source of infection, incision and drainage, and use of antibiotics, fluids, analgesics, and nutritional support (1). The multiple extraction was performed to the patient for eliminated the source of infection. The patient had relief with antibiotics initially and the decided to drain the abscess. Surgical drainage aided in removal of toxic purulent material, decompression of the oedematous tissues, allowed better perfusion of blood containing antibiotics and defensive elements and increased oxygenation in the infected area leading to postoperative uneventful healing (3).

The operation went smoothly and was successful. The swelling was decrease and the patient was followed up without any complaints and recurrent infections. There was improvement of laboratory findings. The patient was discharged at post operation day IV with any kinds of peroral medication such as cefadroxil 500 mg, metronidazole 500 mg, and ibuprofen 400 mg.

## CONCLUSION

The extension of the submandibular space infection to temporal region could be dangerous if not treat immediately. Incision drainage of the abscess, elimination of all infected teeth, and administration of adequate antibiotic are the required treatments to prevent worse condition.

CONFLICT OF INTEREST : There is no conflict of interest

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