

The Characteristic of Neck Abscess Patients at Sanglah General Hospital Denpasar in January, 1st – December, 31th 2014

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ABSTRACT

Deep neck abscess is an abscess formed in potential space in neck fascia resulted by infection deployment from various sources like teeth, mouth, throat, paranasal sinus, ear, and neck. This research was a retrospective descriptive study design with secondary data from all the neck abscess patient's medical record treated in RSUP Sanglah Denpasar. Twenty nine patients with neck abscess are included in this study with characteristic assessment related to gender, age, complaint, diagnosis, germs culture, antibiotic sensitivity, length of stay in hospital, commorbid factor, and complication. The subject is patient with deep neck abscess admitted in RSUP Sanglah from January until December 2014 with gender distribution of men (75,86%) and women (24,14%), with average age of 50,33 years old.

Keyword: Deep neck abscess, Characteristic, Infection, RSUP Sanglah.

INTRODUCTION

A deep neck abscess is an abscess formed in a potential space between the deep neck fascia as a result of the spread of infection from various sources such as teeth, mouth, throat, paranasal sinus, ear and neck.^{1,2,3}

The incidence of deep neck abscesses is higher in the pre-antibiotic era but remains as an important problem in third world countries leading to morbidity and mortality. In the pre antibiotic era, 70% was coming from the infection deployment from the pharynx and tonsils whereas today they are mostly caused by dental infections.⁴

A deep neck abscess can lead into serious fatal complications such as airway obstruction, pneumonia, lung abscess, mediastinitis, pericarditis and internal jugular venous thrombosis.^{5,6}

Besides doing abscess drainage, antibiotics are also needed for more adequate treatment. To get an effective antibiotic against the patient, it is necessary to examine the bacterial culture and antibiotic susceptibility test against germs. However, this takes a long time so it is necessary to provide an antibiotic empirically.^{3,7}

Good knowledge about the fascia anatomy and the potential neck spaces and causes of neck

abscess is absolutely necessary to predict adequate deployment and management.

METHOD

Research Design

This study used a retrospective descriptive research design by taking secondary data from medical records of neck infection patients who went to RSUP Sanglah Denpasar.

Sample Research

Sampling is done by consecutive sampling, every patient who fulfill the inclusion criteria of the research is included as the research sample. Inclusion criteria in this study were patients diagnosed with a deep neck abscess and treated to RSUP Sanglah Denpasar from January 2014 to December 2014. Exclusion criteria were patients with incomplete medical records.

Data Collection Method

Data was taken from medical records of patients diagnosed with neck infection and treated

Table 1: Characteristic of neck abscess patient based on gender

Gender	N	Percentage (%)
Men	22	75,86
Women	7	24,14
Total	29	100

Table 2: Characteristic of neck abscess based on age group

Age (years)	N	Percentage (%)
0-10	0	0
11-20	1	3,45
21-30	3	10,35
31-40	5	17,24
41-50	9	31,03
51-60	9	31,03
61-70	1	3,45
71-80	1	3,45
>80	0	0
Total	29	100

in RSUP Sanglah Denpasar. The examination results are recorded in the data collection sheets for further analysis.

Data processing

The results are presented descriptively in the form of tables and narratives.

RESULT

Characteristics of patients with neck abscess treated in RSUP Sanglah Denpasar are as follows:

Based on table 1, the neck abscess patients obtained were as much as 29 people with male ratio of 22 patients or equal to 75,86% and women of about 7 people or equal to 21,14%.

Based on table 2, we obtained characteristic of deep neck abscess patient based on age group, the most was in 41-50 years old and 51-60 years old, each as much as 9 people or 31,03%. While the least of them is in 11-20 age group, 61-70 age group, and 71-80 age group, as much as 1 people (3,45%), each. Average age of deep neck abscess in this research is 50,33 years old.

Based on table 3, as much as 29 patients with deep neck abscess with clinically symptoms as pain; 15 people with fever, 11 people with dysphagia, 8 patients with trismus, and 2 patient with breathlessness symptom.

Based on table 4, characteristics of people with deep neck abscess based on the most frequent locations were peritonsillar abscesses, as much as 9 patient or 31.04% and the fewest

Table 3: Characteristic of neck abscess patient based on clinical symptom

Symptoms	N
Pain	29
Fever	15
Dysphagia	11
Trismus	8
Breathlessness	2

were peritonsillary abscesses with pseudoangina Ludovici, peritonsillary abscess with pseudoangina Ludovici and mediastinitis, submandibular abscess with extension into buccal region, submandibular abscess with Mediastinitis, pseudoangina Ludovici with parapharynx abscess and pseudoangina Ludovici with pleuropneumonia, each consisted of 1 patient or as much as 3.45%.

Based on table 5, obtained as much as 26 patients or 89,65% without comorbid factor and as much as 3 patients or 10,35% with comorbid factor such as diabetes mellitus, CKD (chronic kidney disease), and ACKD (Acute on chronic kidney disease).

Based on table 6, characteristic of deep neck abscess based on length of stay in hospital, the most was 4 and 6 days, each much as 5 patients or 17,24%. The least one was 9, 11, 15, 20, 21, 33 days, as much as 1 patient (3,45%), each. The average of stay in hospital for deep neck abscess in this study was 8,8 days.

Based on table 7, we obtained as much as 25 patient or 86,22% without complication, and 4 patient or 13,78% with complication.

DISCUSSION

In a study conducted by Huang *et al*¹⁴, from 185 cases of deep neck abscess, we obtained

58.9% of patients were found men and 41.1% of patients were women. Suebara *et al*¹⁵ reported that from the total of 80 cases of deep neck abscess, we found 69% of the patient were males and 31% were women. In this study, as much as 75.86% of patients were male and 24.14% of patients were female.

According to Gorjon and colleague¹⁶, the average age of people with deep neck abscess is 37.2 years. In a study conducted by Huang *et al*¹⁴, we obtained the average age of patients with deep neck abscesses is 49.5 years. Suebara and colleague¹⁵ in his study, reported the average age of patients with a deep neck abscess was 37.1 years. Yang *et al*¹⁷ in his study, demonstrated that the average age of people with deep neck abscesses was 49.2 years. While in this study, the average age of patients with deep neck abscess is 50.33 years.

In a study performed by Gorjon *et al*¹⁶, 50.6% of patients diagnosed with peritonsillary abscess, 58% with submandibular abscess, 23% with parotid abscess, 17% of patients with parapharynx abscess, 16% of patients with retropharynx abscess, 11% of patients with maseteric abscess, 9% of patients with pterigomaxillary abscess and 7% of patients with Ludovici pseudoangina. Suebara *et al*¹⁵ reported 45% of patients diagnosed with submandibular abscess, 16.25% of patients with submandibular abscess and parapharyngeal abscess, 18.75% of patients with just parapharynx abscess, 6.25% of patients with posterior neck

Table 4: Characteristic of deep neck abscess based on location

Location	N	Percentage (%)
Peritonsillar	9	31,04
Submandibular	5	17,24
Pseudoangina Ludovici	5	17,24
Parapharynx	2	6,89
Parotid	2	6,89
Peritonsillar + pseudoangina Ludovici	1	3,45
pseudoangina Ludovici + mediastinitis	1	3,45
Submandibular expanded to buccal	1	3,45
Submandibular + mediastinitis	1	3,45
Pseudoangina Ludovici + parapharynx	1	3,45
Pseudoangina Ludovici + pleuropneumonia	1	3,45
Total	29	100

abscess, 6.25% of patients with parapharynx abscess with mediastinitis and pleural effusion, 2.5% of patients with parotid abscess, 1.25% of patients with retropharynx abscess, 1.25% of patients with retropharynx abscess and mediastinitis, 1.25% of patients with parapharynx abscess and mediastinitis and 1, 25% of patients with submandibular abscess with extension to mastoid. In this study, 31.04% of patients with peritonsillary abscess, 17.24% of patients with submandibular abscess, 17.24% of patients with Ludovici pseudoangina, 6.89% of patients with parapharynx abscess, 6.89% of patients with parotid abscess, 3.45% of patients with peritonsillary abscess and Ludovici pseudoangina, 3.45% of patients with peritonsillary abscess with Ludovici pseudoangina and mediastinitis, 3.45% of patients with submandibular abscess with

expansion to the buccal region, 3.45% of patients with submandibular abscess with mediastinitis, 3.45% of patients with Ludovici pseudoangina with parapharynx abscess and 3.45% of patients with Ludovici pseudoangina with pleuropneumonia.

In the study conducted by Kamath *et al*⁴, 66% of patients found with clinical symptoms as dysphagia, 59% with neck pain, 48% with fever, 21% with trismus and 17% with breathlessness. Suebara *et al*¹⁵ in her study reported deep neck abscess patients with clinical symptoms of pain as much as 98.75%, 85% with fever, 23.75% with odinophagia, 11.25% with dysphagia, 10% with breathlessness and 3,75% with toothache pain. 100% of patients with deep neck abscess complained a clinical symptoms of pain, 51.72% of patients with fever, 37.93% with dysphagia, 27,58% with trismus and 6.89% with breathlessness.

Table 5: Characteristic of deep neck abscess based on comorbidity factor

Comorbid factor	N	Percentage (%)
Diabetes mellitus	1	3,45
CKD	1	3,45
ACKD	1	3,45
None	26	89,65
Total	29	100

Table 6: Characteristic of deep neck abscess based on length of stay in hospital

Length of stay (days)	N	Percentage (%)
3	3	10,35
4	5	17,24
5	2	6,89
6	5	17,24
7	2	6,89
8	3	10,35
9	1	3,45
11	1	3,45
15	1	3,45
20	1	3,45
21	1	3,45
33	1	3,45
Jumlah		100

zSuebara and colleague¹⁵, reported that as many as 23.75% of patients with deep neck abscess is complicated by diabetes mellitus, 17.5% of patients with hypertension, 11.25% with heart disease, 8.75% with cancer, 5% with lung disease, 3.75% with HIV infection and 3.75% as a drug user. Huang *et al*¹⁴, in his study found that as many as 34.1% of patients with deep neck abscess is comorbid by systemic disease, 88.8% with diabetes mellitus, 9.5% with uremia or chronic renal failure, 4.8% of patients with liver cirrhosis, 2.4 % of patients with myelodysplastic syndrome and as many as 1.2% of patients with malignancy in the stomach undergoing chemotherapy. In this study, 89.65% of patients was without complications and as many as 3 patients or 10.35% with complicated factors namely diabetes mellitus, CKD and ACKD.

Huang and colleague¹⁴ said on his study, the length of treatment in patients with deep neck

Table 7: Characteristic of deep neck abscess base on complication

Complication	N	Percentage (%)
Without complication	25	86,22
With complication	4	13,78
Total	29	100

abscess was in the average of 13 days. Patients with diabetes mellitus was 19.7 days, patients with complication, the average is 27.3 days. In this study, the average length of treatment in patients with deep neck abscess was 8.8 days.

Huang *et al*¹⁴ also reported that as many as 16.2% of patients was present with complications, while in this study, just 13.78% of patients that had complications.

CONCLUSIONS

Twenty-nine patients with a deep neck abscess were included in this study, by assessing the characteristics associated with gender, age,

complaint, diagnosis, length of stay in hospital, comorbid factor and complications. Patients with deep neck abscess who came to RSUP Sanglah from January to December 2014, has a gender distribution as male in 75.86% and female as much as 24.14% with average age of 50,33 years. Patients with the most diagnosis of deep neck abscess is peritonsillar abscess, as much as 31,04%. As many as 100% of people with deep neck abscesses presented with clinical symptoms of pain. Patients with deep neck abscess as much as 89,65% has no complication factor. The average length of treatment in patients with deep neck abscess in this study was 8.8 days. 86,22% of patients with deep neck abscess presented with no complication.

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