Deep neck infection in Chiang Mai University Hospital

Chonticha Srivinitchopood M.; Pichit Sittitrai M.; Thienchai Pattarasakulchai M.; Rak Tananuvat M.D.
Department of Otolaryngology, Faculty of Medicine, Chiang Mai University, Thailand

ABSTRACT

Objectives: To understand the clinical characteristics of patients with deep neck infection (DNI), especially in immunocompromised hosts. Also to analyze the threatening complications and the difficulty in making a diagnosis.

Methods and materials: A retrospective study of 177 patients with DNI, excluding peritonsillar abscess during a period of January 2004 to July 2009 (Table 2,4,7,8). The most common cause has been odontogenic infections. Potentially lethal complications such as upper airway obstruction, mediastinitis, thrombosis of the internal jugular vein, septic shock, and death.

RESULTS

- Patient characteristics: One hundred and seventy-seven patients with DNI were treated at our department between January 2004 and July 2009 (Table 1).
- Blood tests including WBC and Hb level were sorted in two groups, normal and abnormal levels. Most patients had normal Hb levels but abnormal WBC results.
- Factors that influence multiple spaces’ involvement were diabetes mellitus and HIV infection (P-value = 0.039 2.57(1.05-6.30)).
- Microbiology: The results were reported in 154 of the 177 patients. In 49 patients (27.7%), bacterial cultures remained sterile, while 55 patients had single and 50 patients had multiple organisms. Streptococcus sp. was the most common aerobic bacteria.
- Treatment: All of our patients needed both antibiotics and surgical drainage.

DISCUSSION

- Deep neck infections are still of interest due to their life-threatening complications and the difficulty in making a diagnosis.
- Patients with immunocompromised status had a poor outcome in our study, where the mortality rate of 14.9% in DM patients and 11.8% in HIV patients was significantly higher than the rate of 5.6% in immunocompetent hosts. Other parameters were not statistically significant.
- The anatomy of this areas includes multiple potential spaces with connecting pathways down to the mediastinum and along the great vessels. Diabetes mellitus and HIV infection were the risk factors for complications and in multivariate analysis, only Hb level was the risk factor.

CONCLUSIONS

- The complex anatomy of the head and neck plus associated factors, especially the patient’s compromised status, is usually an important therapeutic goal.

METHODS AND MATERIALS

Between January 2004 and July 2009, clinical records of patients with a diagnosis of DNI, excluding peritonsillar abscess, at the Department of Otolaryngology, Chiang Mai University Hospital, were reviewed. There were 177 patients. All patients were subsequently treated appropriately with antibiotics and surgical drainage. The following data were recorded: demographic, duration of hospitalization, disease complications (infection, symptoms, site of infection, imaging, complicated blood count test, bacteriology, treatment including airway management, and complications). All descriptive data were reported in percentages. Fisher’s exact test was used to test for the difference in proportions (OR) with 95% confidence intervals (95% CI) were used to compare the data. Statistical analysis was performed using SPSS (15.0). A value of p < 0.05 was considered statistically significant.

This study was approved by Research Ethics Committee, Faculty of Medicine, Chiang Mai University, Thailand.

REFERENCE

1-3

Poster Design & Printing by Genigraphics® - 800.790.4001

Deep neck infection (DNI) is an infectious process of deep fascial space in the head and neck area. This condition is challenging due to variable clinical manifestations which can be presented in a minimal form of inflammatory response to a potentially lethal complications such as upper airway obstruction, mediastinitis, thrombosis of the internal jugular vein, septic shock and death. The anatomy of this areas includes multiple potential spaces with connecting pathways down to the mediastinum and along the great vessels. Diabetes mellitus and HIV infection were the risk factors for complications and in multivariate analysis, only Hb level was the risk factor.

- The anatomy of this areas includes multiple potential spaces with connecting pathways down to the mediastinum and along the great vessels. Diabetes mellitus and HIV infection were the risk factors for complications and in multivariate analysis, only Hb level was the risk factor.

OBJECTIVES: To understand the clinical characteristics of patients with deep neck infection (DNI), especially in immunocompromised hosts. Also to analyze the threatening complications and the difficulty in making a diagnosis.

METHODS AND MATERIALS: A retrospective study of 177 patients with DNI, excluding peritonsillar abscess during a period of January 2004 to July 2009. The most common cause has been odontogenic infections. Potentially lethal complications such as upper airway obstruction, mediastinitis, thrombosis of the internal jugular vein, septic shock, and death.

RESULTS:

- Patient characteristics: One hundred and seventy-seven patients with DNI were treated at our department between January 2004 and July 2009 (Table 1).
- Blood tests including WBC and Hb level were sorted in two groups, normal and abnormal levels. Most patients had normal Hb levels but abnormal WBC results.
- Factors that influence multiple spaces’ involvement were diabetes mellitus and HIV infection (P-value = 0.039 2.57(1.05-6.30)).
- Microbiology: The results were reported in 154 of the 177 patients. In 49 patients (27.7%), bacterial cultures remained sterile, while 55 patients had single and 50 patients had multiple organisms. Streptococcus sp. was the most common aerobic bacteria.
- Treatment: All of our patients needed both antibiotics and surgical drainage.

DISCUSSION:

- Deep neck infections are still of interest due to their life-threatening complications and the difficulty in making a diagnosis.
- Patients with immunocompromised status had a poor outcome in our study, where the mortality rate of 14.9% in DM patients and 11.8% in HIV patients was significantly higher than the rate of 5.6% in immunocompetent hosts. Other parameters were not statistically significant.
- The anatomy of this areas includes multiple potential spaces with connecting pathways down to the mediastinum and along the great vessels. Diabetes mellitus and HIV infection were the risk factors for complications and in multivariate analysis, only Hb level was the risk factor.

CONCLUSIONS:

- The complex anatomy of the head and neck plus associated factors, especially the patient’s compromised status, is usually an important therapeutic goal.

METHODS AND MATERIALS:

Between January 2004 and July 2009, clinical records of patients with a diagnosis of DNI, excluding peritonsillar abscess, at the Department of Otolaryngology, Chiang Mai University Hospital, were reviewed. There were 177 patients. All patients were subsequently treated appropriately with antibiotics and surgical drainage. The following data were recorded: demographic, duration of hospitalization, disease complications (infection, symptoms, site of infection, imaging, complicated blood count test, bacteriology, treatment including airway management, and complications). All descriptive data were reported in percentages. Fisher’s exact test was used to test for the difference in proportions (OR) with 95% confidence intervals (95% CI) were used to compare the data. Statistical analysis was performed using SPSS (15.0). A value of p < 0.05 was considered statistically significant.

This study was approved by Research Ethics Committee, Faculty of Medicine, Chiang Mai University, Thailand.