

Incidence and potential risk factors for hospital-acquired pneumonia in an emergency department

Authors :

Dr Maryam Fadaei dashti ¹, Zahra Abedi ², Hossein Davouvandi³, dr Mohamad reza maghsoudi⁴, Mohsen lotfi ⁵

Aderss: Shahid Rajaei , Educational & Medical Center. Alborz University of Medical Sciences, Karaj, Iran

1- Emergency Medicine Specialist, Emergency officer, Clinical Research Development Unit.

Background:

About 7% of the hospitalized patients in developed countries will acquire healthcare-associated infections. Therefore, World Health Organization (WHO) states that infection control is a vital part of patient safety improvements and requires a wide range of actions and to improve the quality in healthcare in general by identifying risk factors. Healthcare is changing toward greater specialization, and surgical wards are intended for the most severely ill patients often with complex care needs. More patients with additional comorbidities are accepted for elective surgery at older age than previously with an increased risk for postoperative complications . By definition, hospital-acquired pneumonia (HAP) should be diagnosed in the hospital later than 48 h after admittance . It should be separated from community-acquired pneumonia (CAP), which means diagnosis of pneumonia within 48 h after admittance and ventilator-associated pneumonia in intensive care units. This is a subset of HAP that occurs in mechanically ventilated patients >48 h after tracheal intubation . In 2005, another entity of pneumonia was described in patients who recently had been in contact with the healthcare system. It was called hospital care acquired pneumonia (HCAP) . It was proposed that HCAP should be treated with therapy for drug-resistant pathogens . However, this has been criticized and the term HCAP is now controversial . It is no longer recognized as a clinically independent entity and has been removed from the guidelines of IDSA . HAP is the second most common nosocomial infection after urinary tract infection but the most dangerous with highest mortality Recently, a mortality of 9.2% was reported in HAP . In a study from all hospitals in Sweden based on ~19 000 medical records using structured review of randomly selected medical records with the Global Trigger Tool method . the incidence of pneumonia was 1%. In that report, patients with a hospital stay of <48 h were also included. Previous publications have identified various risk factors for HAP as high age, smoking, chronic pulmonary disease, multi-trauma and poor general condition . Further, patients with HAP and positive isolations of *Staphylococcus aureus* more often had a history of diabetes mellitus and liver . A surgical ward for emergency cases may be at high risk for various hospital-acquired adverse events including HAP. It has, however, not been possible to find previous publications on that topic. The aim of the present study was

therefore to calculate the incidence and analyse potential risk factors for HAP in an emergency ward for surgical patients with acute abdomen or trauma.

Conclusion

Verified or suspected aspiration was the dominating risk factor for HAP in emergency room but also immobilization was frequently associated with HAP. Various established preventive measures should be implemented in the nursing care to reduce the frequency of HAP.

The importance of the emergency department as the first line of referral to patients in the control of infection is important, which requires the strategies of infection control in the emergency department.

Key word: Incidence , risk factors , pneumonia , emergency department