

# Nosocomial pneumonia

see also [Ventilator-associated pneumonia](#)

Hospital-acquired [pneumonia](#) (HAP) or [nosocomial](#) pneumonia refers to any pneumonia contracted by a patient in a hospital at least 48–72 hours after being admitted. It is thus distinguished from community-acquired pneumonia. It is usually caused by a bacterial infection, rather than a virus.

HAP is the second most common nosocomial infection (after urinary tract infections) and accounts for 15–20% of the total.

It is the most common cause of death among nosocomial infections and is the primary cause of death in intensive care units.

HAP typically lengthens a hospital stay by 1–2 weeks.

## Predictors

LDH might be a helpful predictor of postoperative pneumonia (POP) occurrence in [aneurysmal subarachnoid hemorrhage](#) patients <sup>1)</sup>.

## Outcome

Chen et al. collected data on [ventilator-associated pneumonia](#) (VAP) and [hospital-acquired pneumonia](#) (HAP) induced by [Stenotrophomonas maltophilia](#) (SM) and *Klebsiella pneumoniae* (KP) and compared differences between two bacteria in mortality, duration of ventilator use, length of hospital stay, and risk factors for infection.

**Objectives:** This study aimed to evaluate the prognosis and to find risk factors of SM-HAP/VAP versus KP-HAP/VAP in the intensive care unit (ICU).

**Methods:** This retrospective cohort study included patients admitted to the ICU between June 2019 and June 2021 and diagnosed with SM-HAP/VAP or KP-HAP/VAP. The primary outcome was 28-day mortality.

**Results:** Ninety-two HAP/VAP patients (48 with SM-HAP/VAP and 44 with KP-HAP/VAP) were included. The 28-day mortality was 16.7% (8/48 patients) in SM-HAP/VAP and 15.9% (7/44 patients) in KP-HAP/VAP ( $P = 0.922$ ). After adjustment for potential confounders, the hazard ratios for 28-day mortality in SM-HAP/VAP were 1.3 (95% CI:0.5-3.7), 1.0 (95% CI:0.4-3.0), 1.4 (95% CI:0.5-4.0), and 1.1 (95% CI:0.4-3.4), respectively.

**Conclusion:** SM-HAP/VAP and KP-HAP/VAP patients in ICU might have a similar prognosis in mortality, the total duration of the artificial airway and ventilator use, the total length of ICU stay, and hospital stay. The risk factors of SM-HAP/VAP versus KP-HAP/VAP might be the artificial airway, ventilator use, gastric tube placement, acid suppressant and antibiotics (especially carbapenem) <sup>2)</sup>.

<sup>1)</sup>

Ding CY, Peng L, Lin YX, Yu LH, Wang DL, Kang DZ. Elevated lactic dehydrogenase level predicts postoperative pneumonia of patients with aneurysmal subarachnoid hemorrhage. *World Neurosurg.* 2019 Jun 13. pii: S1878-8750(19)31582-7. doi: 10.1016/j.wneu.2019.06.041. [Epub ahead of print] PubMed PMID: 31203058.

2)

Chen S, Zou D. Prognosis of hospital-acquired pneumonia/ventilator-associated pneumonia with *Stenotrophomonas maltophilia* versus *Klebsiella pneumoniae* in intensive care unit: A retrospective cohort study. *Clin Respir J.* 2022 Aug 31. doi: 10.1111/crj.13537. Epub ahead of print. PMID: 36045483.

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Last update: **2025/04/29 20:27**

