

## Clinical impact of prior hospitalization in patients admitted with community-onset pneumonia

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**Introduction:** Although prior hospitalization (PH) for two or more days within the past 90 days has been considered as a risk factor for infection with potentially drug-resistant (PDR) pathogens in patients with community-onset (CO) pneumonia, the evidence is limited. We aimed to elucidate the clinical impact of PH on these patients. **Methods:** This retrospective observational study was conducted at Jeju National University Hospital between January 2012 and December 2014. We classified the study patients into PH-associated pneumonia (PHAP) and community-acquired pneumonia (CAP) groups. Propensity scores were constructed to improve the balance of baseline characteristics between two groups, and the clinical outcomes were compared. We also conducted subgroup analyses based on prior antibiotic use, duration of PH, and time to re-admission. **Results:** A total of 704 patients were identified; the PHAP group included 97 patients (13.7%). Patients with PHAP had more comorbidities than those with CAP. And the median CURB-65 and PSI scores were higher in patients with PHAP than in those with CAP. After matching according to propensity scores, the baseline characteristics of the PHAP group were similar to those of the CAP group. The isolation rate of PDR pathogens as well as the 30-day and total in-hospital mortality did not differ between the PHAP and propensity score-matched CAP patients (14.4% vs. 9.2%,  $p=0.267$ ; 13.4% vs. 13.4%,  $p=1.000$ ; and 17.5% vs. 14.4%,  $p=0.557$ , respectively). Multivariate logistic regression analysis demonstrated that only prior antibiotic use was associated with the isolation rate of PDR pathogens (adjusted OR: 5.066; 95% CI: 1.231-20.845). **Conclusion:** PH itself might not be related with higher isolation rates of PDR pathogens or mortality in patients with CO-pneumonia. Because PHAP patients had primarily worse host-related factors associated with pneumonia, they seemed to have poorer clinical outcomes. The independent risk factor for the isolation of PDR pathogens was prior antibiotic use in patients with PHAP. It seems reasonable that broad spectrum antibiotic therapy for PDR pathogens should be selectively applied to PHAP patients with prior antibiotic use.

## Dynamic airway obstruction due to flapping fibrinous tracheal pseudomembrane

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An 81-year-old woman had salpingo-oophorectomy under general anesthesia. Five days after the operation, she started complaining of dyspnea, but her symptom was relieved by coughing. Chest CT showed segmental luminal narrowing in the proximal trachea just below the vocal cords (Figure A). She underwent flexible bronchoscopy, which revealed fibrinous tracheal pseudo-membrane (FTP) complicated after intubation. It obstructed her trachea by flapping, closed in inspiration and opened in expiration, so her symptom was relieved by coughing (Figure B, C). After intubation, we inserted a flexible bronchoscope through remnant space of both vocal cords and separated that from cartilaginous portion of trachea using biopsy forceps (Figure C, D). Her dyspnea was resolved after the procedure. The FTP is a rare complication of tracheal intubation and can result in fatal complication such as respiratory failure due to airway obstruction. Although the exact pathogenesis remains unknown, it maybe originates from injury to trachea during intubation, ischemic injury by inflated cuff of endotracheal tube, and/or aspiration of gastric contents. The FTP may be life-threatening because it manifested as nonspecific symptoms and results in delaying of diagnosis. The correct diagnosis and treatment only can be performed by flexible and/or rigid bronchoscopy. Thus, a clinician should conduct bronchoscopy quickly if patient's symptoms suggest FTP, because early recognition and bronchoscopy is essential for diagnosis and treatment, and guarantees good prognosis.

