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**Title:** Impact of aspiration pneumonia in community-acquired pneumonia and healthcare-associated pneumonia

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**Body:** Background: Aspiration pneumonia is ranked as a considerable etiology in community-acquired pneumonia (CAP) and healthcare-associated pneumonia (HCAP). However, its frequency and role have not been fully evaluated due to difficulties in the diagnosis. Objective: To determine the frequency of aspiration pneumonia in CAP and HCAP, and to evaluate its impact on the outcome among these patients with acute pneumonias. Methods: We defined aspiration pneumonia as the following conditions: having risk factors for aspiration pneumonia, including dysphagia due to neurological disorder, mechanical obstruction of the airways and disturbance of consciousness, and also showing lung gravitational opacities in chest CT. Clinical features, microbiology, and outcomes in total 637 patients with CAP (n=417) and HCAP (n=220) were retrospectively analyzed. Results: Forty-six (11%) patients with CAP and 102 (46%) patients with HCAP met the definition of aspiration pneumonia (p<0.001). The severity score (CURB-65) was higher in HCAP patients (median 3.0, interquartile range; IQR 1.0) than in CAP patients (median 2.0, IQR 1.0; p<0.001). The treatment failure due to resistant pathogens was more frequently seen in HCAP (9.5%) than in CAP (3.4%, p=0.001). In the entire patients with pneumonias, a multivariate analysis indicated that aspiration pneumonia was associated with 30-day mortality (adjusted hazard ratio 4.263, p=0.001) after adjusting for other variables. Conclusion: Aspiration pneumonia may be a significant predictor of mortality in both patients with CAP and HCAP. Therefore, it would be better for the treatment guidelines for CAP and HCAP to adopt a concept of objectively-defined aspiration pneumonia.