Healthcare-Associated Pneumonia (hcap) And Hospital-Acquired Pneumonia (hap) - Bacterial Etiology, Antibiotic Resistance And Mortality

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prospective study including 318 patients

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Background: Healthcare-associated pneumonia (HCAP) was introduced as a subgroup of Hospital-acquired pneumonia (HAP) as per American thoracic society/ Infectious Disease Society of America guidelines due to a higher incidence of antibiotic resistance in HCAP. But recently some European studies have advocated HCAP as an entity similar to Community-acquired pneumonia. Our study aims at finding microbial etiology and clinical outcomes of HCAP.

Objective: To study microbial etiology, antibiotic susceptibility and clinical outcomes of HCAP.

Methods: A prospective single center case-control study was done over two years, from August 2013, including, n=318 patients, divided into two groups, HCAP (n=165) and HAP (n=153). Data on patient characteristics, microbial etiology, APACHE - II scores, clinical outcomes, and mortality were analyzed.

RESULTS: Patients with HCAP had more comorbidities and severity of pneumonia was similar to HAP (APACHE - II score ≥ 17 - HCAP (n=82) and HAP (N=83)). Escherichia coli (n = 30, 18%) and Acinetobacter baumannii (n = 62, 41%) are the most commonly isolated bacteria in HCAP and HAP groups, respectively. The isolation of bacteria intrinsically resistant to colisitin (Burkholderia cepacia, Proteus vulgaris, Serratia spp.) have further made the management more challenging. Also antibiotic resistant strains were isolated from majority of cases. In HCAP, MDR=38, XDR=49 and agents sensitive only to polymyxin were 22, whereas in HAP, MDR=30, XDR=84, PDR=3 and bacteria sensitive only to polymyxin were 48. In HCAP, n=38 in-Hospital mortalities were recorded [HAP, n=60], with APACHE-II score ≥17 [OR=14, p=0.00], Septic shock [OR=4.5, p=0.00] and Consolidation [OR=2.9, p=0.007] being strongest predictors of in-hospital mortality.

CONCLUSIONS: The patient characteristics in HCAP, its clinical outcomes, microbial etiology and high incidence of antibiotic resistant bacteria, suggest HCAP as an entity closer to but less severe than HAP. There is alarming incidence of antibiotic resistance in HCAP and exclusion of HCAP from HAP, may need to reconsidered or HCAP can be kept in third different category, besides HAP and CAP, due to higher morbidity, frequent hospitalizations and higher incidence of drug resistant pathogens in HCAP.

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