Candida spp. airway colonization could promote antibiotic-resistant bacteria selection in patients with suspected ventilator-associated pneumonia.

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Source

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Abstract

OBJECTIVE:
Candida spp. airway colonization could promote development of ventilator-associated pneumonia (VAP) caused by Pseudomonas aeruginosa, a potentially multidrug-resistant (MDR) bacteria, and worsen the outcome of VAP regardless of pathogen. We therefore address the question of the risk of MDR bacteria isolation within the airway of patients with suspected VAP, whether Candida spp. is present or not.

DESIGN AND SETTING:
Prospective observational study in a teaching hospital.

PATIENTS AND METHODS:
Consecutive patients with suspected VAP were included. Respiratory tract secretions were seeded on specific medium for yeast isolation in addition to standard culture. Outcome as well as presence of MDR bacteria were assessed according to fungal colonization.

RESULTS:
323 suspected VAP were analysed. Among these, 181 (56 %) cases presented with Candida spp. airway colonization. Colonized and noncolonized patients were similar regarding baseline characteristics, prior exposure to antibiotics and VAP severity. However, mortality rate was greater in patients with fungal airway colonization than in those without (44.2 versus 31.0 %, respectively; p = 0.02). In addition, MDR bacteria isolation was 31.5 % in patients with Candida spp. colonization versus 23.2 % in those without (p = 0.13). Moreover, Candida spp. airway colonization was one independent risk factor for MDR bacteria isolation [odds ratio (OR) = 1.79, 95 % confidence interval 1.05-3.05; p = 0.03], in addition to the time elapsed between intensive care unit (ICU) admission and VAP suspicion.

CONCLUSIONS:
In patients with suspected VAP, Candida spp. airway colonization is frequent and associated with increased risk for MDR bacteria isolation. This could worsen outcome and should therefore be considered when choosing an empiric antibiotic therapy.