Author's response to 'CAP and HCAP are different? An unresolved question'

Dear Editor,

We thank the authors for the interest in our recent publication and for their useful comments.

Unfortunately we consider the comparison with the publication from Giannella *et al*[1] poorly appropriate in many aspects. The main strength of our work is the multicentre prospective case–control study design (match by age, gender and period of hospitalisation). Although severity scores were not used for matching, we considered this design the most appropriate to describe healthcare-associated pneumonia (HCAP) features. In fact, the Giannella group performed an observational prospective study only on patients admitted to internal medicine departments: these elements (study design and patients) could justify a different population composition and, consequently, different microbiological and clinical findings. In fact, in comparison with our HCAP patients, this population (Giannella *et al*[1]) clearly showed older age (mean age; Giannella: 83 years vs Polverino: 78.8 years), poorer functional status (mean Barthel score; 30 vs 58) and more aspiration risk (50% vs 39%).

We have also reanalysed the number of comorbidities across the sites of care (respiratory and internal medicine departments) of our study. We observed that cases (HCAP) did systematically show more comorbidities than controls (CAP) in all departments. Moreover, the mean number of comorbidities of HCAP admitted to respiratory departments (mean±SD, 2.5±1.9) was similar to that of HCAP patients admitted to internal medicine (2.7±1.6) departments.

Similarly, the modified Charlson index for comorbidities was systematically higher for HCAP in comparison with CAP independently of the site of care. HCAP cases showed similar Charlson index in both respiratory (mean±SD, 2.5 ±1.6) and internal medicine (mean±SD, 2.5±1.8) departments.

In comparison with our study, the HCAP population from the Giannella study presents poorer functional status, more risk factors for CAP severity and for MDR pathogens. For these reasons in our opinion, the work of Giannella *et al* does not fully represent the general population unlike our study that includes patients from all medical services potentially attending pneumonia patients.

On the other hand, we agree with Falcone *et al*[2] about the fact that BAL is the best diagnostic option for pneumonia; for this reason, we included BAL in our microbiological panel. Unfortunately a number of reasons did not consent us to perform a minimal number of BAL: (1) the bad clinical condition of our patients at admission (particularly HCAP), (2) the usual unavailability of bronchoscopy at the emergency departments and (3) the frequent patients' rejection of bronchoscopy. Unfortunately these difficulties reflect the real world of clinical practice.

Nonetheless, our microbiological results are fully coherent with other studies from Spain[3 4] and UK,[5] while the assessment of MDR risk should possibly be based on specific clinical factors (ie, previous antibiotic therapy, etc.) in any population (including CAP[6]) rather than on the HCAP label that has shown poor predictive value for it.[7]

For all these reasons, we think that current guidelines for CAP are still valid for HCAP in Europe, but risk factors for MDR should still be considered individually.

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Contributors EP is the main author of the paper, while AT is the leader of the study group and guarantor of the entire study. The authors of this authors' response write on behalf of the whole HCAP study group.

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