

A prospective, observational study reveals Hospital Acquired Pneumonia (HAP) to be a blind-treated, high mortality, hospital-wide disease associated with cardio-respiratory comorbidity.



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Introduction

- Pneumonia (HAP) is the highest mortality, most frequent UK hospital acquired infection.
- Little evidence exists to support management of the majority of cases which occur outside Intensive Care.
- We developed a surveillance system for HAP, and describe management and outcome in a large UK hospital.

Aims & Objectives

- To evaluate management of Hospital Acquired Pneumonia and develop a surveillance system to improve patient outcomes

Methods

- All patients with HAP in a large UK teaching Hospital were prospectively recruited during October 2017.
- Patient recruitment was performed as a 3 stage screening process including
 1. Daily surveillance of hospital-wide electronic antibiotic prescribing
 2. Radiological cross-referencing
 3. Same day clinical confirmation of HAP cases from whom anonymised data were collected.

Results

- 97 cases were distributed across all hospital wards, but concentrated on respiratory 27.8%, surgical 17.5% and care of the elderly 13.4% wards.
- Age ranged from 31 to 98y with a median age of 77y.
- The most frequent comorbidities were cardio-respiratory (44.3%).

Results

- Antibiotic choice was guideline compliant in 78.4% but treatment duration was compliant in only 33% of cases
- Only 27/97 (27.84%) patients had a sputum sample sent of which 5/27 (18.5%) were positive.
- Blood cultures were sent in 42/97 (43.30%) of which 6/42 (14.3%) were positive.

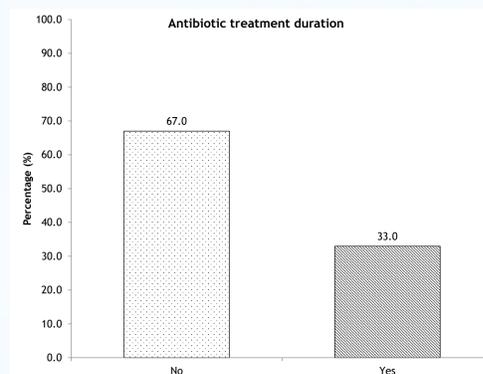


Figure 5 - Treatment duration compliance (%)

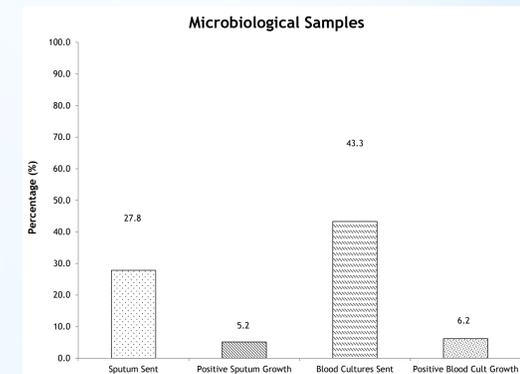


Figure 6 - Microbiological Cultures (%)

- Median length of stay was 18 days.
- 1 month mortality was 24.7%, rising to 46.4% at 6 months and 50.5% at 9 months.

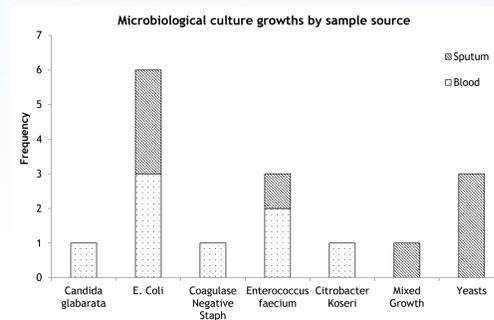


Figure 7 - Microbiological growths by sample

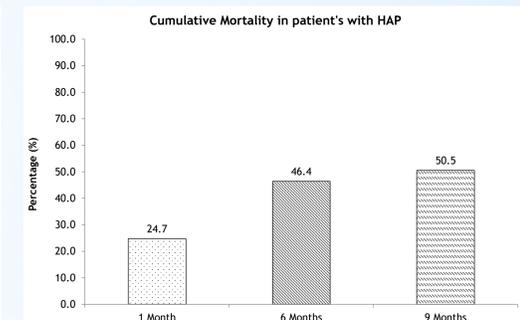


Figure 8 - Mortality in patients with HAP (%)

Discussion/Conclusion

- HAP affected all wards within the hospital and was associated with high rates of both short and long-term mortality.
- Antibiotic therapy was always empirical and rarely supported by microbiology.
- Duration of treatment varied enormously.
- We demonstrate an effective method of HAP surveillance to aid quality improvement and facilitate further research.

References

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2. Torres, A., Niederman, M., & Chastre, J. (2017). International ERS/ESICM/ESCMID/ALAT guidelines for the management of hospital-acquired pneumonia and ventilator-associated pneumonia. *European Respiratory Journal*, 50. <http://dx.doi.org/10.1183/13993003.00582-2017>
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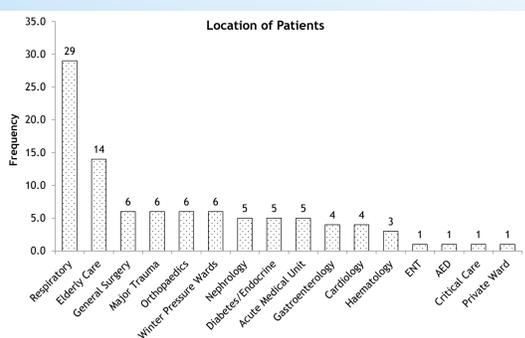


Figure 1 - Location of patients by ward

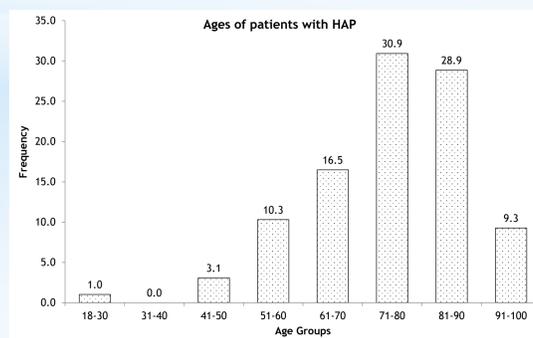


Figure 2 - Age Ranges of Patients with HAP (%)

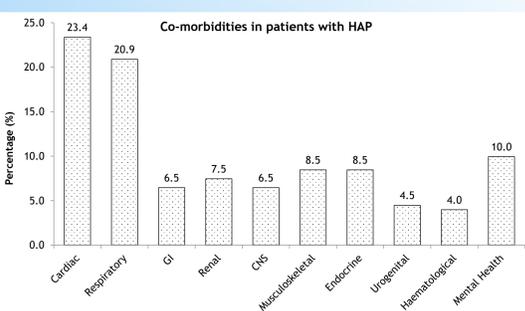


Figure 3 - Co-morbidities in patients with HAP (%)

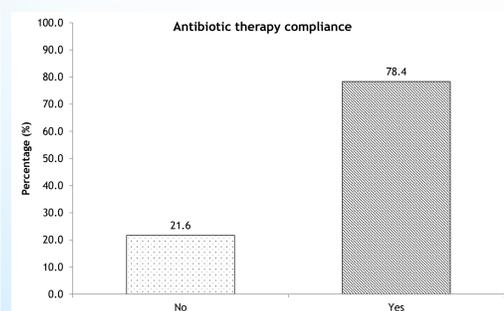


Figure 4 - Antibiotic therapy compliance (%)