Microbiological characteristics of nosocomial pneumonia in surgical patients: one size doesn't fit all.

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BACKGROUND AND GOAL OF THE STUDY

Postoperative pneumonia (POP) is associated with an increase on morbidity, mortality and length of hospital stay. Multi-drug resistant pathogens (MDR) could be present in respiratory samples in POP early after hospital admission (48h) even in patients without risk factors.

The aim of the study is to assess microbiological features of POP in a surgical intensive care unit (SICU) and determine if risk factors for MDR germs (RFMDR) are still able to predict their isolation.

MATERIAL AND METHODS

We retrospectively analysed data from POP diagnosed during the admission in the SICU (January/10-November/17).

Variables analysed: demographic, microbiological respiratory cultures and RFMDR: ≥ 5 days of hospitalization prior to the occurrence of POP, antimicrobial therapy in the preceding 90 days, hospitalization for ≥ 2 days in the preceding 90 days.

■ Sensitive bacteria
■ MDR *P.aeruginosa*
■ BLEA
■ MRSA

Figure 1. Microbiology of POP in patients with RFMDR

Figure 2. Microbiology of POP in patients without RFMDR

RESULTS AND DISCUSSION

- 195 patients with an average age of 70 (18-93) years old had at least one episode of POP, 83% ASA III-IV and 95% were intubated in the operating room.
- A total of 267 episodes of POP were recorded. Pathogens were isolated in 70% of cases (206 isolations).
- In the group of patients with RFMDR, MDR pathogens were isolated in 31% of episodes (Figure 1). In 92% of cases, MDR isolation could be predicted by RFMDR.
- Most sensitive pathogens were isolated on early SICU admission in patients without RFMDR (Figure 2 and Figure 3). *P. aeruginosa* and *Haemophilus* spp. were the most frequent germs in this group (24%).

Figure 3. Distribution of sensitive bacteria in early POP in patients without RFMDR

CONCLUSIONS

On a tertiary SICU, no matter time on admission, MDR pathogens isolation are still predictable by RFMDR. Taking into account our local flora, empiric coverage of early POP in patients without RFMDR should include *Ps. Aeruginosa* and Gram-negative bacteria (*Enterobacter*, *Klebsiella* spp.), that are not commonly isolated in community pneumonia.

REFERENCES

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- Kalil AC et al. Clin Infect Dis 2016.