Staphylococcus aureus carriage at admission predicts early-onset pneumonia after burn trauma

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Introduction
Early-onset pneumonia (EOP) is frequent after burn trauma, increasing morbidity in the critical resuscitation phase which may preclude early aggressive management of burn wounds. Currently, however, preemptive treatment is not recommended.

Objectives
The aim of this study was to identify predictive factors for EOP that may justify early empirical antibiotic treatment.

Methods
Data for all burn patients requiring ≥4 h mechanical ventilation (MV) who were admitted between January 2001 and October 2012 were extracted from the hospital’s computerized information system. We reviewed EOP episodes (occurring within 7 days from admission) among patients who underwent endotracheal aspiration (ETA) within 5 days after admission. Univariate and multivariate analyses were performed to identify independent factors associated with EOP. Logistic regression was used to identify factors predicting EOP development.

Results
1 During the study period, 396 burn patients were admitted. 108 patients developed an EOP; 47 cases were caused by Staphylococcus aureus, 37 by Haemophilus influenzae and 23 by Streptococcus pneumoniae (Figure 1).

2 ETA was performed within 5 days in 204/290 patients receiving ≥4 h MV. Among the 33 patients showing S. aureus positivity on ETA samples, 16 (48.5%) developed S. aureus EOP. Among the 156 S. aureus non-carriers, only 16 (10.2%) developed EOP (Figure 2).

3 Multivariate analysis showed that S. aureus carriage was the only factor that independently predicted S. aureus EOP (p<0.0001).

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Disclosure of Interest: None to declare