

POSTER PRESENTATION

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Ventilator associated complications: observing implications of a new surveillance paradigm

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From ESICM LIVES 2015

Berlin, Germany. 3-7 October 2015

Introduction

Surveillance for Ventilator Associated Pneumonia (VAP) is problematic. The CDC published a new surveillance framework [1] with two main goals.

- Broaden focus of surveillance beyond VAP to include other common ventilator-associated complications (VACs).

- Produce objective surveillance definitions using quantitative data based on changes in ventilator settings.

It introduces a hierarchy of surveillance targets:

1. Ventilator associated complications (VAC). Includes both pulmonary and non pulmonary complications.

2. Infection related (IVAC) complications with an infective component.

Objectives

To gain an impression of rates of ventilator acquired complications using the new CDC criteria and impact on antibiotic prescription.

Methods

- Inclusion Criteria: All consecutive patients intubated for at least 48 hours

- Exclusion Criteria: All elective post-cardiac surgery

- Follow Up: Until extubation or death

- Three random period of data collection

- In the first round data on 40 patients were captured

- Four months later in a second round a total of 18 patients were recruited.

Results

First round (Figure 1) on 23 patients shows VAC incidence of 7/23 (30.4%). In VAC group, 4 (17%) met IVAC criteria as possible pneumonia. Second round (Figure 2) enrolled 17 patients and shows VAC rate of 1/17 (11%) and that one case was possible pneumonia. Third round (Figure 3) enrolled 18 patients and shows a VAC rate of 4/18 (22%). In VAC group, 1 developed IVAC (6%) as possible pneumonia. Thus VAC rate var-

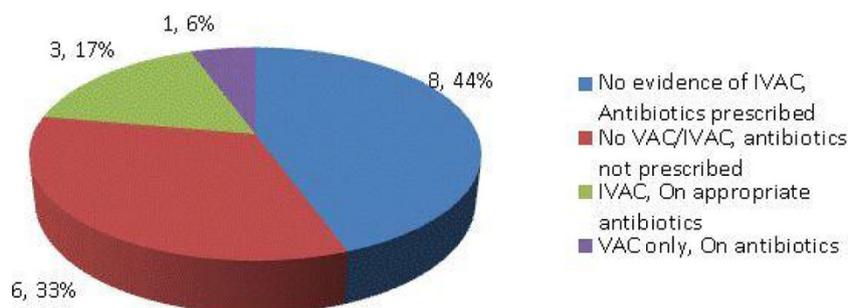


Figure 1

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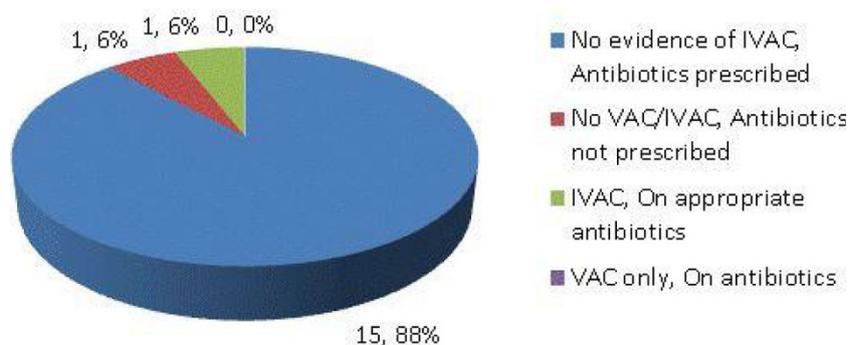


Figure 2

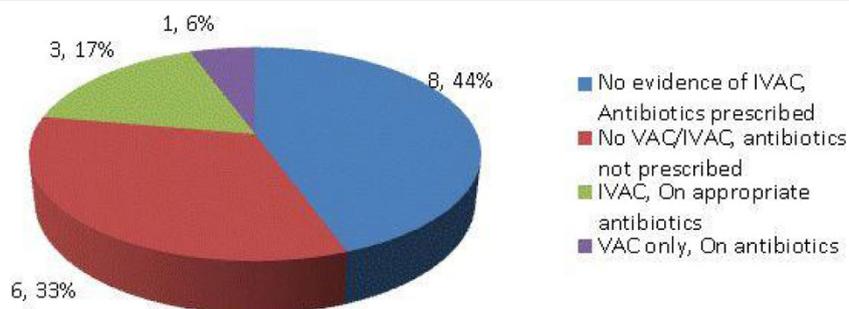


Figure 3

ied from 11-30% but IVAC due to pneumonia ranged from 5-17%.

Conclusions

- New CDC definition for VAC are easy to apply and removal of subjective criteria must be welcomed
- New definitions of IVAC allows clinicians to increase antibiotics free rate by 18-37% relatively
- In these 3 cohorts, several patients were treated with antibiotics despite no evidence to classify as IVAC. This can only be attributed to subjective decision and interpretation of chest x-ray
- The commonest indication for antibiotic prescription was non-pulmonary.
- Patients in possible pneumonia group on microbiology did not meet other IVAC criteria, highlighting issue of colonisation being treated with antibiotics
- IVAC metric thus has potential to identify outlier antibiotic prescribers
- Objective criteria to classify patients into VAC and IVAC has potential for automation in order to monitor the incidence of VAC, adding value to clinical dashboard

Published: 1 October 2015

Reference

1. Klompas M: *NEJM* 2013, **368**:16:1472-75.

doi:10.1186/2197-425X-3-S1-A941

Cite this article as: Yuan et al.: Ventilator associated complications: observing implications of a new surveillance paradigm. *Intensive Care Medicine Experimental* 2015 3(Suppl 1):A941.

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