Burden of Community-Acquired Pneumonia due to PCV-13 Streptococcus pneumoniae Serotypes among Hospitalized Adults in the United States

Julio Ramirez, on behalf of the 1147 study group

OBJECTIVE

• According to one study enrolling subjects in 2010-2011 (prior to the full impact
  of PCV13), the burden of disease for US adult patients hospitalized with community-acquired
  pneumonia (CAP) caused by Streptococcus pneumonia (Sp) PCV13 vaccine types (VT) is not known. The
  objective of this study was to determine the incidence, patients' characteristics, length of stay, and mortality for US adult patients hospitalized with CAP due to Sp PCV13 VT.

METHODS

• This was a prospective observational study of adults hospitalized between Oct. 2013 and Sept. 2016 at 120 centers in the US. Patients were included if the following criteria were met: (1) age 18 years or older; (2) presence of two or more of the following: fever, hypothermia, chills or rigors, pleural chest pain, cough, sputum production, dyspnea, tachypnea, tachycardia, or abnormal auscultatory findings suggestive of pneumonia; (3) Radiographic findings consistent with pneumonia; (4) Ability to provide urine sample; (5) Signed informed consent. The presence of Sp PCV13 VT was investigated using a UAD assay (detects 13 serotype-specific culture positivity assays).1,2

ABSTRACT

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RESULTS

• The most prevalent at-risk conditions were chronic obstructive pulmonary disease (COPD) (42.6%) and diabetes (27.3%). Median LOS was 8 days, and 98% was 31.5 years. There were no clinically significant differences when this population was compared to the population of patients without PCV13 VT Sp CAP.

Conclusions

• In addition to laboratory culture, both BinaxNOW (for identification of PCV13 VT) and the UAD assay (for detection of PCV13 VT) were used. Data on patients' characteristics, length of stay (LOS) and in-hospital mortality for US adult patients hospitalized with CAP due to Sp PCV13 VT are reported.

REFERENCES


CONCLUSION

• After a well implemented 4 dose childhood vaccination schedule and despite near elimination of IPD, a persistent burden of adult CAP is caused by PCV13 pneumococcal serotypes in the US.