

CORRESPONDENCE

Adult Patients With Nosocomial Pneumonia: Epidemiology, Diagnosis, and Treatment

by Prof. Dr. med. Klaus Dalhoff, Prof. Dr. med. Santiago Ewig in volume 38/2013

The Crucial Role of Molecular Diagnostics

The diagnostic evaluation of patients with nosocomial pneumonia or hospital-acquired pneumonia (HAP) has traditionally focused on bacteriology (1). In the past, one of the reasons was the lack of sensitive tests and diagnostic methods in virus detection. In the light of increasing scientific evidence and our own clinical experiences we wish to stress the critical role of modern molecular diagnostic testing methods for respiratory viruses, and in particular for influenza, in HAP, to ensure that state of the art detection, prevention, and management of such pathogens are given their proper place in future guidelines.

Currently, virological diagnostic work-up is not routinely done in HAP and is often conducted only in individual cases or in certain groups of patients. Comprehensive virological data for HAP are therefore lacking. It can be assumed, however, that the prevalence or viral pathogens in HAP is substantially underestimated.

Giannella and colleagues have recently reported that during the winter months, influenza was confirmed in about a third of patients with respiratory symptoms requiring intensive care (2). In about half of the cases, influenza was not suspected. In 42% of patients, the infection was acquired nosocomially. A recently published intervention study from the Netherlands has confirmed the critical role of hospital staff in the prevalence of influenza in adult inpatients at university medical centers, as well as the preventive effect of vaccinating the healthcare workers against influenza (3). For emerging infections, such as the Middle East respiratory syndrome coronavirus or respiratory syncytial virus, nosocomial transmission is also well documented.

For the purposes of preventing infections and the rational use of antibiotics it seems important to us to consider virological etiologies of HAP and to systematically initiate appropriate diagnostic evaluation thereof. Furthermore, influenza vaccination rates among healthcare staff need to be improved, in accordance with the recommendations of Germany's Standing Vaccination Committee (STIKO, Ständige Impfkommission).

DOI: 10.3238/arztebl.2014.0010a

REFERENCES

1. Dalhoff K, Ewig S: Clinical practice guideline: Adult patients with nosocomial pneumonia—epidemiology, diagnosis and treatment. *Dtsch Arztebl Int* 2013; 110(38): 634–40.

2. Giannella M, Rodriguez-Sanchez B, Roa PL, et al.: Should lower respiratory tract secretions from intensive care patients be systematically screened for influenza virus during the influenza season? *Crit Care* 2012; 16: R104.
 3. Riphagen-Dalhuisen J, Burgerhof JG, Frijstein G, et al.: Hospital-based cluster randomised controlled trial to assess effects of a multi-faceted programme on influenza vaccine coverage among hospital healthcare workers and nosocomial influenza in the Netherlands, 2009 to 2011. *Euro Surveill* 2013; 18: 20512.

PD Dr. med. Marcus Panning

Dr. med. Daniela Huzly
 Prof. Dr. med. Hartmut Hengel
 Institut für Virologie, Department für Medizinische Mikrobiologie und Hygiene
 Universitätsklinikum Freiburg
 marcus.panning@uniklinik-freiburg.de

Prof. Dr. med. Winfried V. Kern

Abteilung Infektiologie, Department Innere Medizin
 Universitätsklinikum Freiburg

Prof. Dr. med. Markus Dettkenkofer

Institut für Umweltmedizin und Krankenhaushygiene
 Universitätsklinikum Freiburg

Conflict of interest statement

Professor Dr Hengel is a member of Germany's Standing Vaccination Committee (STIKO).
 The other authors declare that no conflict of interest exists.

In Reply:

We thank Panning and coauthors for their letter, which provides us with an opportunity for emphasizing the importance of nosocomial respiratory infections caused by viruses. In the abbreviated version of our guideline published in *Deutsches Ärzteblatt* this was not possible due to space constraints. In the long version (1), however, we focused—in the chapter on the spectrum of pathogens—on the importance especially of influenza, and in the explanation of recommendation E7 (microbiological testing), we advise virological testing in patients in whom a virus is the suspected pathogen.

We also agree with our correspondents that more evidence on the subject should become available thanks to the now more widely available molecular biological tests. However, fully published studies on viral etiologies of nosocomial pneumonia are still lacking. The study reported by Giannella et al., which our correspondents cite, can at best be regarded as a pilot study: in 31 of 105 intubated patients with suspected lower respiratory tract infection, whose endotracheal aspirates were sent for analysis, influenza was identified during the flu season. But this had been acquired nosocomially in only 13 cases; furthermore, the manuscript does not provide any information on how many of the subjects did have pneumonia (2). We hope that more published data on the subject will be available by the time the updated guideline is published, at the end of 2014.

With regard to the particular importance of flu prevention and emerging viral infections, we can only agree with our correspondents; in this respect, the

guideline, which deals exclusively with the epidemiology, diagnostic evaluation, and treatment of nosocomial pneumonia, refers readers to the relevant publications from the German Respiratory Society (3) and the Robert Koch Institute (www.rki.de).

DOI: 10.3238/arztebl.2014.0010b

REFERENCES

1. Dalhoff K, Abele-Horn M, Andreas S, et al.: Epidemiologie, Diagnostik und Therapie erwachsener Patienten mit nosokomialer Pneumonie. S-3 Leitlinie der Deutschen Gesellschaft für Anästhesiologie und Intensivmedizin e.V., der Deutschen Gesellschaft für Infektiologie e.V., der Deutschen Gesellschaft für Hygiene und Mikrobiologie e.V., der Deutschen Gesellschaft für Pneumologie und Beatmungsmedizin e.V. und der Paul-Ehrlich-Gesellschaft für Chemotherapie e.V. *Pneumologie* 2012; 707–65.
2. Giannella M, Rodriguez-Sanchez B, Roa PL, et al.: Should lower respiratory tract secretions from intensive care patients be systematically screened for influenza virus during the influenza season? *Crit Care* 2012; 16: R104.

3. Schaberg T, Bauer T, Dalhoff K, et al.: Management der neuen Influenza A/H1N1-Virus-Pandemie im Krankenhaus: Eine Stellungnahme der Deutschen Gesellschaft für Pneumologie und Beatmungsmedizin. *Pneumologie* 2009; 63: 417–25.
4. Dalhoff K, Ewig S: Clinical Practice Guideline: Adult patients with nosocomial pneumonia—epidemiology, diagnosis and treatment. *Dtsch Arztebl Int* 2013; 110(38): 634–40.

Prof. Dr. med. Klaus Dalhoff

Medizinische Klinik III – Pneumologie/Infektiologie, Lübeck
klaus.dalhoff@uk-sh.de

Prof. Dr. med. Santiago Ewig

Thoraxzentrum Ruhrgebiet, Bochum

Conflict of interest statement

Professor Dalhoff has had travel and accommodation costs reimbursed and has received fees for the preparation of scientific educational presentations from Astra-Zeneca, Bayer Vital, Novartis, Pfizer, and MSD. He has received third-party funding for his study center from Cubist, Cigma, Johnson & Johnson, and Cerexan. He has received funding from Bayer Vital for a research project initiated by himself.

Professor Ewig declares that no conflict of interest exists.