CORRESPONDENCE

Nosocomial Infections and Multidrug-resistant Organisms in Germany: Epidemiological Data From KISS (The Hospital Infection Surveillance System)

by Dr. med. Christine Geffers, Prof. Dr. med. Petra Gastmeier in volume 6/2011

Non-albicans *Candida* species

The objective of the Hospital Infection Surveillance System (KISS) is to collect data on the frequency and types of nosocomial infections, including organisms with particular epidemiological relevance for intensive care units. *Candida* species are an important cause of catheter-related bloodstream infections in critically ill patients. In the United States, *Candida* spp are the fourth most common cause of nosocomial bloodstream infections, and, depending on overall patient morbidity, they are associated with a case fatality rate of up to 50%. Apart from *Candida albicans*, infections with non-albicans *Candida* spp are increasingly observed. Currently, worldwide, approximately 50% of cases of candidemia are caused by non-albicans *Candida* species. These non-albicans *Candida* spp are of particular clinical relevance as they are associated with increased frequencies of resistance to currently available systemic antimycotic drugs (1–3). It is against this background that the KISS data presented in the article (4) only partly reflect the epidemiology of catheter-related candidemia in German intensive care units. The only listed *Candida* spp. is *Candida albicans* – the group of non-albicans *Candida* spp. is entirely omitted from the analysis. This way of presentation, however, results in a marked underestimation of the magnitude of invasive *Candida* infections: Assuming –based on current literature data– a prevalence of 50% of non-albicans *Candida* spp., bloodstream infections due to *Candida* would be third in frequency of catheter-associated infections in German intensive care units with completely different implications for preventive and therapeutic strategies.

Given the complete lack of other patient-related analyses on the epidemiology of invasive *Candida* infections in Germany, I would very much encourage the authors to complete their analysis and to include non-albicans *Candida* spp. If data on non-albicans *Candida* catheter associated infections are not yet collected in KISS, I strongly recommend to reconsider this approach and to capture all catheter-associated infections due to *Candida* spp in this well-organized and so important surveillance network.

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REFERENCES

1. Pappas PG, Kauffman CA, Andes D, et al.: Clinical practice guidelines for the management of candidiasis: 2009 update by the Infectious Diseases Society of America. Clin Infect Dis 2009; 48: 503–35.
2. Tortorano AM, Peman J, Bernhardt H, et al.: ECMM Working Group on Candidaemia: Epidemiology of candidaemia in Europe: results of

28-month European Confederation of Medical Mycology (ECMM) hospital-based surveillance study. Eur J Clin Microbiol Infect Dis 2004; 23: 317–22.

3. Wisplinghoff H, Bischoff T, Tallent SM, Seifert H, Wenzel RP, Edmond MB: Nosocomial bloodstream infections in US hospitals: analysis of 24179 cases from a prospective nationwide surveillance study. Clin Infect Dis 2004; 39: 309–17.
4. Geffers C, Gastmeier P: Nosocomial infections and multidrug-resistance organisms in Germany—epidemiological data from KISS (The Hospital Infection Surveillance System). Dtsch Arztebl Int 2011; 108(6): 87–93.

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In Reply:

In the KISS, the causative strain that is regarded as etiologically relevant can be selected from 28 different classifications from a dropdown list. For *Candida*, the selection options are “*C. albicans*” and “other *Candida* spp”. In central venous catheter-related sepsis, “other *Candida* spp” are reported as the causative strains in 2.2% of infections occurring in intensive care wards. Combined with the 5.6% of infections where *C. albicans* is the causative agent, a total of 7.8% of all cases of central venous catheter-related sepsis are therefore reportedly due to *Candida* species. Professor Groll cites data from the US, according to which *Candida* species are the fourth most common cause of central venous catheter-related sepsis. This reflects exactly the ranking given by the KISS data, independently of whether only *C. albicans* is included or all *Candida* spp including non-albicans *Candida*. The ranking of the most common causative agents in the KISS does not change when the other *Candida* spp are included. The following proportions of cases of central venous catheter-related sepsis listed *Candida* spp as the causative agents (proportions of candidemias owing to “*C. albicans*” and “*C. spp*” in parentheses), stratified by intensive care wards: interdisciplinary <400 beds 2.1% (10.6%), interdisciplinary ≥ 400 beds 2.8% (7.6%), internal medical 1.1% (5.0%), surgical 2.8% (9.3%), neurosurgical 0.7% (3.6%), pediatric 2.1% (4.9%), neurological 3.0% (6.0%), cardiosurgical 1.4% (7.3%). The non-albicans species account for 19–50% of candidemias, depending on the type of intensive care.

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REFERENCES

1. Geffers C, Gastmeier P: Nosocomial infections and multidrug-resistance organisms in Germany—epidemiological data from KISS (The Hospital Infection Surveillance System). Dtsch Arztebl Int 2011; 108(6): 87–93.

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Conflict of interest statement

The authors of all contributions declare that no conflict of interest exists.