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 antymycotic 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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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%), cardio-surgical 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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Conflict of interest statement
The authors of all contributions declare that no conflict of interest exists.