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Low Compliance with follow-up blood cultures in patients with candidemia

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Background

Despite recent improvements in regards to diagnostic measures and therapy mortality of invasive candidiasis is still within the range of 15 to 50%. Persistence of candidemia has been proposed as a crucial factor for this high level of mortality. Therefore, we established at our university hospital (UKA) a policy for follow-up blood cultures drawn within a time frame of 48-72h after initiation of appropriate antimycotic therapy which were repeated until resolution of candidemia.

Objective

Determination of compliance of drawing blood cultures after initiation of antimycotic therapy in case of proven candidemia at the UKA. Establishing measures capable of increasing the rate of follow-up blood cultures in case of candemia and thereby improving therapy and outcome of the affected patients.

Method

In the UKA notification of microscopic detection of yeast cells in case of positive blood cultures is performed by phone and written report in a timely mannor. Determination of compliance to our policy concerning drawing of follow-up blood cultures was done by calculation of the time difference between the initial notification and time of drawing of a follow-up blood culture using HyBASE®. A time difference of 48-72 h was judged as “adequate”.

Results

In the period from November 2016 to October 2017 candidemia episodes were observed in 51 patients [Figure 1]. Evaluation of compliance to our policy was performed using data from 40 patients. In case of the remaining 11 patients evaluation could not be performed due to death within 72 h after primary notification. Compliance to our policy for drawing follow-up blood cultures was only 53% (21/40) [Figure 2]. In case of patients in intensive care units compliance was higher (16/26; 63%) when compared to patients on standard care wards (5/14; 36%) [Figure 3].

Conclusion

As a consequence of the determined low compliance of drawing follow-up blood cultures in case of candidemia all affected patients will be consulted by a member of the infectious disease team upon initial notification by the microbiological laboratory. Furthermore, the respective lab report will have an advice for drawing follow-up blood cultures.

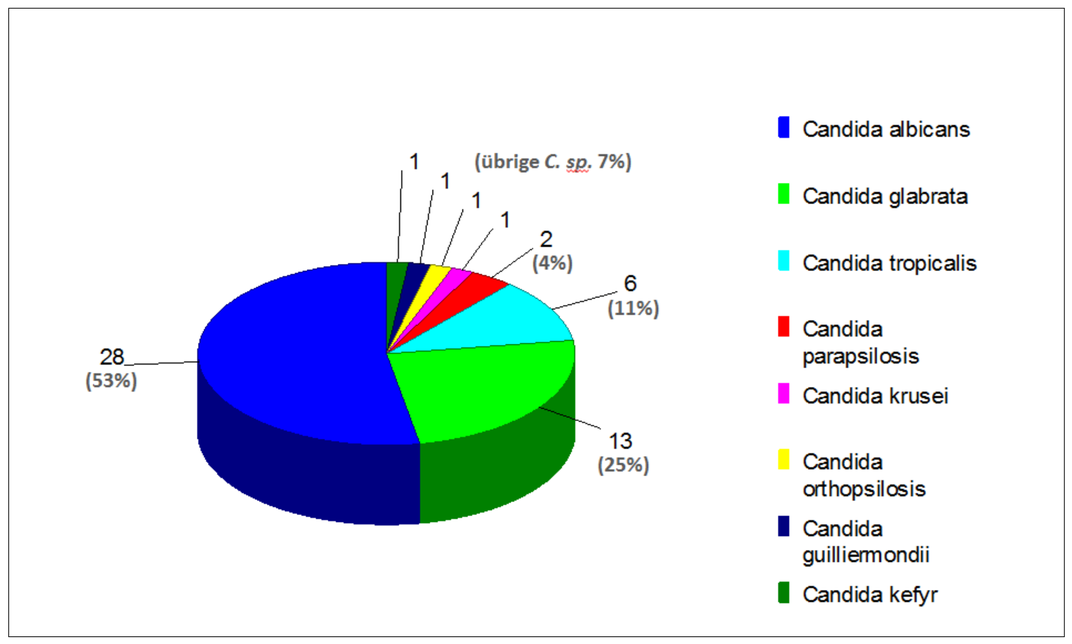

Figure 1: Distribution of Candida spp. in bloodcultures of N=51 patients

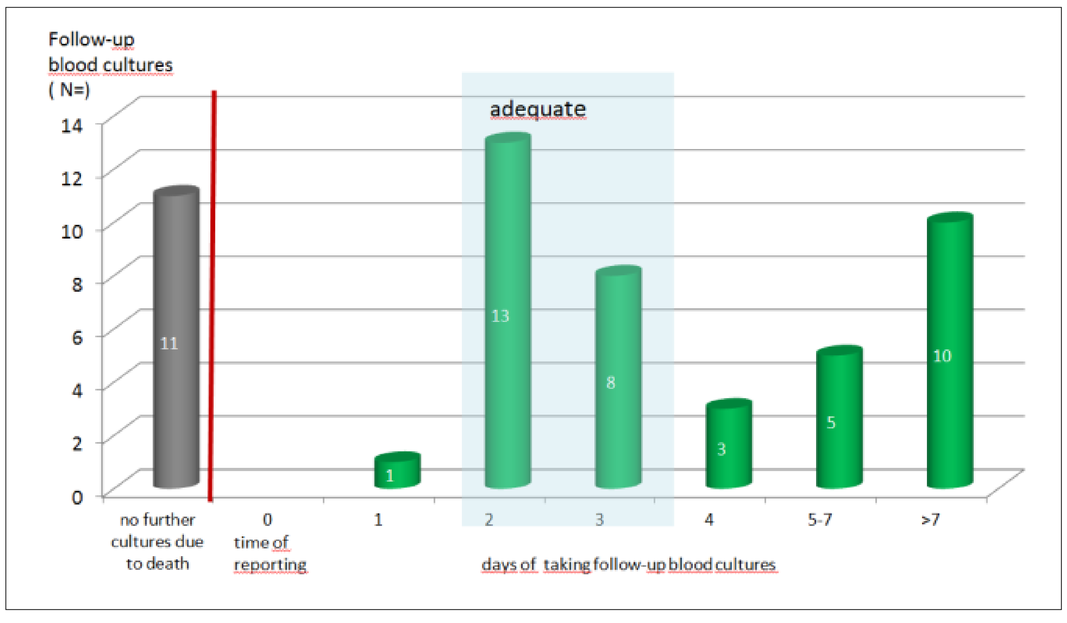

Figure 2: Number (of follow-up bloodcultures in patients (N=40) with Candidemia in regards to reporting time

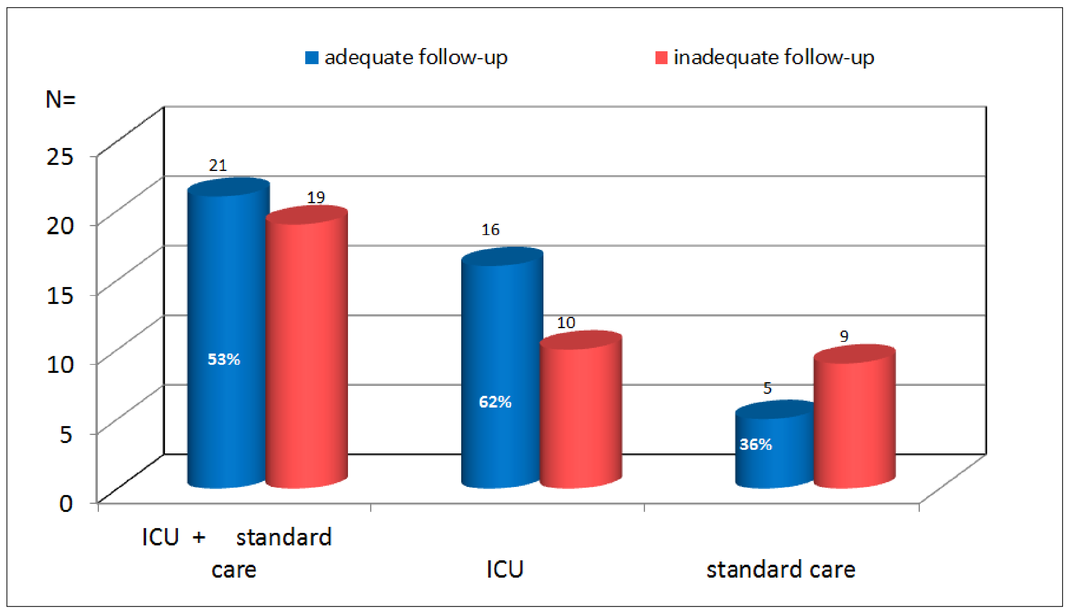

Figure 3: Compliance with follow-up bloodcultures stratified by ICU and standard care

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