

Candida tropicalis in the Peripheral Blood of a Surgical Patient

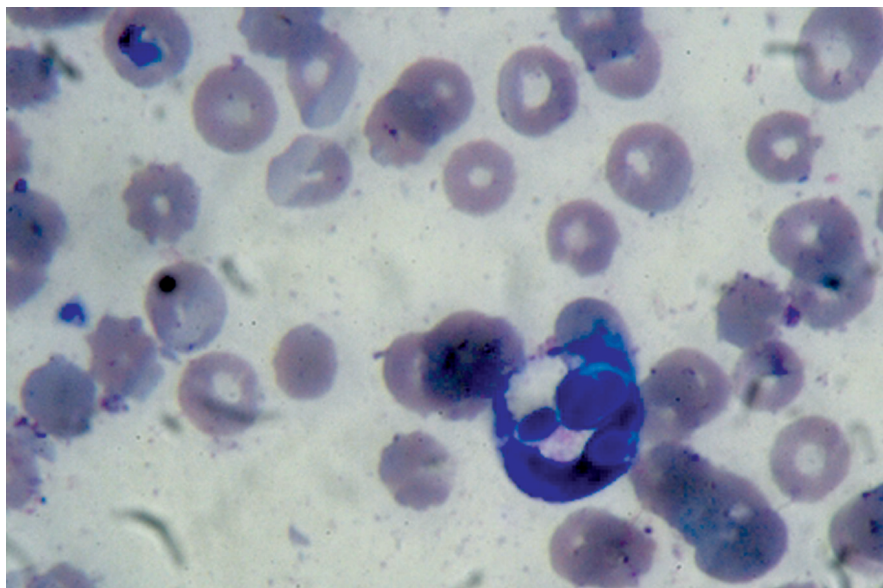


Figure 1. Blood film stained with May-Grünwald-Giemsa (x1,000) revealing intracellular yeast-like organisms.

Klebsiella pneumoniae and *Enterococcus faecalis*. One of the samples was also positive for yeasts, which were later identified as *Candida tropicalis*. Her hemoglobin, leucocyte count, and platelet count were 6.7 g/dL, 3,370/mL and 36,000/mL, respectively. Most of her leucocytes were polymorphonuclear cells (91%). Yeasts were abundant in a blood film; they were being phagocytized (Figure 1).

Candida spp. are rarely seen in peripheral blood smears [1]. Only a handful of cases of disseminated candidosis diagnosed from peripheral blood smears were included in the study by Yera et al., published in 2004 [2]. Interestingly, most cases were caused by *Candida albicans* and involved patients with intestinal obstruction. It appears that this can only occur when fungal elements are present in large numbers in the peripheral blood [3]. For instance, it has been demonstrated that yeasts need to be at a concentration of at least 5×10^5 CFU/mL before they can be seen in the peripheral blood by experienced pathologists [4]. A 1,000-fold higher concentration would probably be required for non-experts during routine slide review. Since most cases of candidemia are associated with much lower concentrations of circulating yeasts (usually < 100 CFU/mL) [4], early detection of candidemia is unlikely in the vast majority of patients, when using this method. However, in some cases, as we report here, a review of blood smears could lead to an early diagnosis, sometimes days before culture result. Unfortunately, our patient died a few hours after her blood was obtained, because of both severe underlying disease and acute illness.

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