Differential role of NK cells against *Candida albicans* infection in immunocompetent or immunocompromised mice.

Quintin J, Voigt J, van der Voort R, Jacobsen ID, Verschueren I, Hube B, Giamarellos-Bourboulis EJ, van der Meer JW, Joosten LA, Kurzai O, Netea MG (2014) Differential role of NK cells against *Candida albicans* infection in immunocompetent or immunocompromised mice. *Eur J Immunol* 44(8), 2405-2414.

Details

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Abstract

Little is known regarding the role of NK cells during primary and secondary disseminated Candida albicans infection. We assessed the role of NK cells for host defense against candidiasis in immunocompetent, as well as immunodeficient, hosts. Surprisingly, depletion of NK cells in immunocompetent WT mice did not increase susceptibility to systemic candidiasis, suggesting that NK cells are redundant for antifungal defense in otherwise immunocompetent hosts. NK-cell-depleted mice were found to be protected as a consequence of attenuation of systemic inflammation. In contrast, the absence of NK cells in T/B/NK-cell-deficient NSG (NOD SCID gamma) mice led to an increased susceptibility to both primary and secondary systemic C. albicans infections compared with T/B-cell-deficient SCID mice. In conclusion, this study demonstrates that NK cells are an essential and nonredundant component of anti-C. albicans host defense in immunosuppressed hosts with defective T/B-lymphocyte immunity, while contributing to

hyperinflammation in immunocompetent hosts. The discovery of the importance of NK cells in hosts with severe defects of adaptive immunity might have important consequences for the design of adjunctive immunotherapeutic approaches in systemic C. albicans infections targeting NK-cell function.

Involved units

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Topics

Interactions with immune cells (MPM)

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