

Abstract

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nuclear antibody on the HEp-2 cells

Abstract

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fungal infections

The changing face of epidemiology of systemic fungal infections

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Abstract

Invasive fungal diseases (IFDs) are an increasingly common complica-
tion in critically ill patients in Europe and are frequently fatal. Because of
changes in treatment strategies and the increased use of antifungal
prophylaxis, the epidemiology of IFDs has changed substantially in recent
years and infections due to Candida species are no longer the majority in
many institutions. In contrast, the emergence of non-Candida IFDs such as
aspergillosis, ucrmycosis and fusariosis has increased. Rates of IFD-related
mortality in Europe depend on the pathogen, geographical location and
underlying patient characteristics, with rates ranging from 28 to 59% for
Candida infections and from 38 to 80% for invasive aspergillosis. Early
initiation of antifungal therapy is critical for improving outcomes; how-
ever, this is complicated by the difficulty in diagnosing IFDs rapidly and
accurately. Choice between agents should be based on a variety of factors,
including spectrum of activity, adverse events, drug interactions, route
of administration, clinical efficacy of individual agents and local
epidemiology.

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Rapid salive test for varicella zoster virus

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Abstract

Varicella zoster virus (VZV) is a ubiquitous human herpesvirus typically
causing childhood varicella (chickenpox) at which time a life-long latent
infection is established in ganglionic neurons throughout the neuraxis.
Reactivation of latent virus, typically in the elderly and immunocompetent
usually causes zoster (shingles) but can also result in serious neurologic
disease. In cases of vasculopathy, meningencephalitis and myelitis where
VZV is suspected, diagnosis requires detection of virus DNA or antibody in
CSF. In collaboration with NASA, VZV DNA was found in saliva of health
astronauts suggesting asymptomatic virus reaction due to the stress of
spaceflight. This lead to a series of studies indicating virus DNA can be
found in saliva of patients with VZV associated neurologic disease. With the
goal of eliminating the need for lumbar puncture to diagnose VZV
associated neurologic disease; we developed a rapid salive test for the
detection of VZV DNA in saliva that can be used in space as well as on Earth.
Herein the test and its potential application will be present.

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Novel approaches for the supportive extracorporeal therapy of sepsis: Towards personalized treatment

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Abstract

Sepsis and sepsis-associated multiple organ failure are associated with
extensive tissue damage caused by over-activation of the innate immune
system and by the excessive release of inflammatory mediators. The develop-
ment of targeted therapies for sepsis remains a major challenge due to the
complex network of inflammatory mediators involved in the septic pro-
cess.

Early detection and timely therapeutic intervention are crucial for
improved outcome of patients with sepsis. Currently however, the diagnosis
of sepsis and septicity relies on a complex network of inflammatory mediators
involving in the septic process.

Here, we report on the development of extracorporeal adsorption systems
for cytokine modulation and on the development and validation of a novel
array technology to detect markers of inflammation (interleukins 6 and 10,