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Anand Kumar

Severe Meningococcal Infection: A Review of Epidemiology, Diagnosis, and Management

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Paul A. Campsall, Kevin B. Laupland, and Daniel J. Niven

Neisseria meningitidis, also known as meningococcus, is a relatively uncommon cause of invasive infection, but when it occurs it is frequently severe and potentially life threatening. Meningococcus should be considered and investigated promptly as a potentially etiologic pathogen in any patient with meningitis, or sepsis accompanied by a petechial rash. Suspected patients should receive early appropriate antimicrobial therapy concomitantly with confirmatory invasive diagnostic tests. Vaccines have reduced the incidence of infection with certain non-B meningococcal serogroups, and new serotype B vaccines are on the horizon. This article reviews the epidemiology, diagnosis, and management of severe meningococcal infections.

Infection in Neutropenic Patients with Cancer

411

Eric J. Bow

Neutropenic fever sepsis syndromes are common among patients with cancer who are receiving intensive cytotoxic systemic therapy. Recognition of the syndromes and timely initial antibacterial therapy is critical for survival and treatment success. Outcomes are linked to myeloid reconstitution and recovery from neutropenia, control of active comorbidities, and appropriate treatment of the infections that underlie the sepsis syndrome. Hematologists and oncologists must be clear about the prognosis and treatment goals to work effectively with critical care physicians toward the best outcomes for patients with cancer who develop neutropenic sepsis syndromes.

Extracranial Head and Neck Infections

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Denise Jaworsky, Steven Reynolds, and Anthony W. Chow

This article outlines infections in the submandibular, lateral pharyngeal, retropharyngeal, danger, and prevertebral spaces, in conjunction with infections of the sinuses and mediastinum. By understanding the anatomy and pathophysiology, the reader will gain insight into the rationale for various therapeutic options.

Fulminant Myocarditis

465

Fredric Ginsberg and Joseph E. Parrillo

Myocarditis is most often caused by a viral infection. Less common causes include other infectious agents and autoimmune diseases. Fulminant

myocarditis is an unusual complication with a rapidly progressive course resulting in severe heart failure and cardiogenic shock. Fulminant myocarditis should be treated with full supportive care, using aggressive pharmacologic therapy and mechanical circulatory support, because significant improvement in left ventricular function will often occur. Cardiac transplantation is required in a small minority of patients. Cardiac magnetic resonance imaging is becoming a frequently used modality to aid in the diagnosis of myocarditis.

Infections of the Developing World

485

Srinivas Murthy, Jay Keystone, and Niranjan Kissoon

Access to critical care is rapidly growing in areas of the world where it was previously nonexistent and where infectious diseases often comprise the largest disease burden. Additionally, with crowding, mass migrations, and air travel, infectious diseases previously geographically confined are quickly spread across the planet, often in shorter time frames than disease incubation periods. Hence, critical care practitioners must be familiar with infectious diseases previously confined to the developing world. This article reviews selected tropical diseases that are seen in diverse locales and often require critical care services.

Obstetric Infections

509

Stephen E. Lapinsky

Sepsis accounts for approximately 10% of all maternal deaths. Pregnant women are susceptible to certain infections because of alterations in their cell-mediated immunity. Obstetric sepsis requires early broad-spectrum antibiotic therapy and may necessitate surgical intervention. Group A streptococcal infection may produce necrotizing fasciitis and toxic shock. Pyelonephritis remains a common cause of sepsis during pregnancy, and associated acute respiratory distress syndrome occurs more commonly than in the nonpregnant population. Severe pneumonitis caused by influenza virus and varicella zoster infection may occur. Malaria may be more severe in the pregnant woman, and carries significant risk to both mother and fetus.

Nosocomial Pneumonia: Lessons Learned

521

Girish B. Nair and Michael S. Niederman

Nosocomial pneumonia remains a significant cause of hospital-acquired infection, imposing substantial economic burden on the health care system worldwide. Various preventive strategies have been increasingly used to prevent the development of pneumonia. It is now recognized that patients with health care–associated pneumonia are a heterogeneous population and that not all are at risk for infection with nosocomial pneumonia pathogens, with some being infected with the same organisms as in community-acquired pneumonia. This review discusses the risk factors for nosocomial pneumonia, controversies in its diagnosis, and approaches to the treatment and prevention of nosocomial and health care–associated pneumonia.

Staphylococcus aureus Bacteremia, Risk Factors, Complications, and Management

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Yoav Keynan and Ethan Rubinstein

Staphylococcus aureus and methicillin-resistant S aureus have emerged as the most important nosocomial pathogens. Traditional therapy may

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