

INTRACRANIAL INFECTION

Meningitis

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Meningitis describes inflammation of the meninges of the brain and spinal cord, most commonly and most seriously due to bacterial infection. The clinical features of meningeal irritation or meningism are fever, headache, neck stiffness and photophobia. Community-acquired bacterial meningitis can progress rapidly without antibiotic treatment to subdural encephalopathy, venous thrombosis, cerebral oedema and death. Meningitis as a complication of head injury or surgery typically follows a more insidious course, but nonetheless remains a feared complication requiring prompt intervention. Hans Christian Joachim Gram, 1853–1938, Professor of Pharmacology (1891–1900) and of Medicine (1900–1923), Copenhagen, Denmark, described this method of staining bacteria in 1884. Typical organisms are *Staphylococcus aureus*, *Enterobacteriaceae*, *Pseudomonas* and pneumococci. Meningitis after head injury is common, affecting 25% of patients with base of skull fracture and CSF leak. Repair of the CSF leak may be required, and empirical antibiotics (Table 48.2) should have activity against commensal nasal organisms, including Gram-positive cocci and Gram-negative bacilli in the presence of symptoms/signs of clinical meningitis. Summary box 48.4 - Meningitis

antibiotic therapy. Treatment should be initiated as soon as feasible, allowing for sampling of collections or CSF first if the patient's clinical condition allows. High-dose empirical intravenous antibiotics are administered according to local protocol, broad spectrum initially and then according to sensitivities of the organisms responsible once identified. Extended treatment over 6 weeks or more is typically required, but a switch to oral therapy may be appropriate after an interval and in consultation with the microbiology team. A feared complication of neurosurgery and of head injury CT head allows exclusion of raised ICP prior to lumbar puncture. CSF should be sent for microscopy and culture, and for assay of protein and glucose levels. Treatment, pending identification of an organism, is with broad-spectrum antibiotics, including anaerobic cover

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