Meningitis

It has been estimated that SA is responsible for around 1%-7% of meningitis (up to 19% in healthcare-associated [[meningitis) [1].

Classification

Community-acquired meningitis.

Healthcare-associated meningitis.

Posttraumatic meningitis.

Aseptic meningitis.

Post-neurosurgical meningitis

Etiology

Chemical meningitis

see Viral meningitis.

see Bacterial meningitis

see Tuberculous meningitis

see Frontal sinus posterior wall fracture.

see Post-neurosurgical meningitis

see Healthcare-associated meningitis.

Epidemiology

Occurs in 25-50% of untreated traumatic cerebrospinal fluid fistula (CSF) and in 10% of patients in the first week after trauma with a head injury.

The diagnosis of external ventricular drain EVD-related ventriculo-meningitis in neurosurgical ICU patients can be established in a rapid manner using a multiplex real-time polymerase chain reaction (PCR) assay on cerebrospinal fluid (CSF) samples in combination with intrathecal biomarkers [2].

Clinical features

Sudden high fever. Stiff neck. Severe headache that seems different from normal. Headache with nausea or vomiting.

Diagnosis

see Meningitis Diagnosis

Treatment

Meningitis treatment.

Complications

Meningitis complications.

Case reports

A report describes the first case, of meningitis in an adult patient caused by Caulobacter spp.

A 75 year-old-man was operated for a glioblastoma with no evident signs of primary infection in the wound site. Eight days after surgery the patient developed signs and symptoms of meningitis. Caulobacter was then isolated on three separate occasions in the patient's cerebrospinal fluid (CSF). Thereafter, specific antibiotic therapy began. After two weeks of therapy the patient was discharged with complete resolution of any related symptoms.

Caulobacter species can cause adult meningitis even where there is no evidence of surgical site infection [3].

1)
Antonello RM, Riccardi N. How we deal with Staphylococcus aureus (MSSA, MRSA) central nervous system infections. Front Biosci (Schol Ed). 2022 Jan 12;14(1):1. doi: 10.31083/j.fbs1401001. PMID: 35320912.
2)
Rath PM, Schoch B, Adamzik M, Steinmann E, Buer J, Steinmann J. Value of multiplex PCR using cerebrospinal fluid for the diagnosis of ventriculostomy-related meningitis in neurosurgery patients. Infection. 2014 Jan 29. [Epub ahead of print] PubMed PMID: 24470322.
3)
Penner F, Brossa S, Barbui AM, Ducati A, Cavallo R, Zenga F. Caulobacter spp: A rare pathogen responsible for paucisintomatic persisitant meningitis in a glioblastoma patient. World Neurosurg. 2016 Sep 17. pii: S1878-8750(16)30846-4. doi: 10.1016/j.wneu.2016.09.020. [Epub ahead of print] PubMed PMID: 27650802.