Meningitis represents a dangerous medical condition which targets the protective brain and spinal cord membranes known as meninges.Ultimately, regardless of the type of causative agent, the common outcome of this inflammatory pathway is multifactorial neuronal damage.The surface of these microbes contains pathogenic molecules called PAMPs (Pathogen–Associated Molecular Patterns) which activate specific immune receptors called Toll–Like Receptors (TLRs) particularly TLR2 and TLR4 that exist on nervous system cells and immune system cells.When the BBB is disrupted, there is an increase in permeability of the BBB that allows for the outflow of fluid and protein from the intravascular to the extravascular spaces surrounding the brain parenchyma leading to cerebral edema.Following the release of these effector cells within the brain, they produce both mediators and proinflammatory cytokines that induce vascular dilatation and increase the permeability of the intracranial blood vessel, contributing to increased ICP.The cerebrospinal fluid attracts leukocytes primarily neutrophils during meningitis development.

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