

Infammatory Mechanisms in Paediatric Neurodegenerative Disorders

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What is Neuro-inflammation?

- First line of defence in the role in eliminating infection
- White blood cells - Phagocytes/Lymphocytes are involved
- It is defensive and produces Antibodies
- There is primary localised Glial activation which leads to an ongoing pathologic process in the central nervous system (CNS) that includes neuroinflammation, glial cell dysfunction (GCD), cellular destruction, hyper-arousal of the sympathetic nervous system
- Molecular effectors compromise the Blood Brain Barrier (BBB)

Two to three years of tracking studies in addition to Cerebrospinal Fluid (CSF) and lymphatic studies have shown the brain is anti-inflammatory.

Is Inflammation protective or destructive?

- Studies have shown a lot of Neurological Diseases are inflammation driven

Treatments

- Non-Steroidal Anti-Inflammatory drugs (**NSAIDs**) and Immunosuppressants, e.g:

Indomethacin

Asprin

Naproxin

Topiramate metolamin

In MLD there is inflammation and it has been shown that the use of Anti-inflammatories and Simvastatin improves Neuroinflammation (NI) and by reducing inflammation there seems to be an improvement in symptoms

The obstacles ahead appear to be: when and why to treat the inflammation.

