Blood?brain barrier dysfunction?induced inflammatory signaling in brain pathology and epileptogenesis

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Abstract:
The protection of the brain from blood-borne toxins, proteins, and cells is critical to the brain?s normal function. Accordingly, a compromise in the blood?brain barrier (BBB) function accompanies many neurologic disorders, and is tightly associated with brain inflammatory processes initiated by both infiltrating leukocytes from the blood, and activation of glial cells. Those inflammatory processes contribute to determining the severity and prognosis of numerous neurologic disorders, and can both cause, and result from BBB dysfunction. In this review we examine the role of BBB and inflammatory responses, in particular activation of transforming grown factor ? (TGF?) signaling, in epilepsy, stroke, and Parkinson?s disease.

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