Welcome to the Journal of Neuroinflammation!

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Abstract

Welcome to the Journal of Neuroinflammation, an open-access, peer-reviewed, online journal that focuses on innate immunological responses of the central nervous system, involving microglia, astrocytes, cytokines, chemokines, and related molecular processes. ‘Neuroinflammation’ is an encapsulation of the idea that microglial and astrocytic responses and actions in the central nervous system have a fundamentally inflammation-like character, and that these responses are central to the pathogenesis and progression of a wide variety of neurological disorders. This concept has its roots in the discovery of inflammatory cytokines and proteins in the plaques of Alzheimer disease, and these ideas have been extended to other neurodegenerative diseases, to ischemic/toxic diseases, to tumor biology and even to normal brain development. The Journal of Neuroinflammation, published by BioMed Central, will bring together work focusing on microglia, astrocytes, cytokines, chemokines, and related molecular processes in the central nervous system. All articles published in the Journal of Neuroinflammation will be immediately listed in PubMed, and access to published articles will be universal and free through the internet.

Introduction

There was a time, not too long ago, when chronic diseases such as Alzheimer’s disease were thought of entirely in terms of neuronal toxicity, neuronal dysfunction, and neuronal disappearance. Any associated glial responses were dismissed as "reactive gliosis", not worthy of further serious attention. How times have changed! The identification of potent immunomodulatory cytokines, such as interleukin-1, and inflammatory proteins, such as complement, in the plaques of Alzheimer’s disease has revolutionized our thinking about this and other chronic "neurodegenerative" diseases. Microglia and astrocytes have come to be recognized as active participants in these diseases, responding to neuronal insults in a decidedly immunological fashion. And - as is the case in peripheral inflammatory diseases where lack of resolution and the resulting chronic inflammation can promote rather than resolve injury, and create entirely new diseases in the process - chronic, sustained microglial and astrocytic responses in the brain promote rather than resolve injury, and create disease in their misdirected efforts. This new understanding of innate immune responses in the brain and their potential for promoting chronic disease has led directly to a new concept in neurobiology: neuroinflammation.

What is neuroinflammation?

‘Neuroinflammation’ encapsulates the idea that microglial and astrocytic responses and actions in the central nervous system have a fundamentally inflammation-like character, and that these responses are central to the pathogenesis and progression of a wide variety of neurological disorders. This idea originated in the field of Alzheimer’s disease [1,2], where it has revolutionized our
Neuroinflammation is a new and rapidly expanding field that has revolutionized our understanding of chronic neurological diseases. This field encompasses research ranging from population studies to signal transduction pathways, and investigators with backgrounds in fields as diverse as pathology, biochemistry, molecular biology, genetics, clinical medicine, and epidemiology. Important contributions to this field have come from work with populations, with patients, with postmortem tissues, with animal models, and with in vitro systems.

The Journal of Neuroinflammation
The new and rapidly expanding field of neuroinflammation deserves a journal of its own, to bring together work focusing on this new area. The Journal of Neuroinflammation will provide this, together with the instant convenience of online publishing and the universal availability of open access. Edited by Robert E. Mrak and Sue T. Griffin, Journal of Neuroinflammation is supported by an international Editorial Board. The Journal of Neuroinflammation will publish original research articles (as full-length or short reports) and comprehensive, authoritative reviews. Commentaries, hypothesis papers, and occasional relevant case reports will also be considered.

All published articles will be listed in PubMed immediately upon acceptance (after peer review). Submitted manuscripts will be assigned to members of the Editorial Board for review, or to alternative or additional consultants expert in the topic of the manuscript, as deemed appropriate by the Editors-in-Chief. Peer reviewers' comments will be made available anonymously to authors. The Editors-in-Chief will provide instructions for those manuscripts requiring revision for final consideration. Final decisions on suitability for publication rest with the Editors-in-Chief.

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Open Access has four broad benefits for science and the general public. First, authors are assured that their work is disseminated to the widest possible audience, given that there are no barriers to access their work. This is accentuated by the authors being free to reproduce and distribute their work, for example by placing it on their institution's website. It has been suggested that free online articles are more highly cited because of their easier availability. Second, the information available to researchers will not be limited by their library's budget, and the widespread availability of articles will enhance literature searching. Third, the results of publicly funded research will be accessible to all taxpayers and not just those with access to a library with a subscription. As such, Open Access could help to increase public interest in, and support of, research. Note that this public accessibility may become a legal requirement in the USA if the proposed Public Access to Science Act is made law. Fourth, a country's economy will not influence its scientists' ability to access articles because resource-poor countries (and institutions) will be able to read the same material as wealthier ones (although creating access to the internet is another matter).

The concept of neuroinflammation offers new hope for understanding, prevention, and perhaps even cure of a number of chronic neurodegenerative diseases. Join us in this new field and this new endeavour! Publication is prompt and reader access is worldwide and free.

Competing interests
None declared.

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