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Poster Presentation

Isolation and Culture of Adult Microglia Cells Derived from Epileptic Human Brain Tissue

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Abstract

Introduction: Temporal lobe epilepsy (TLE) is the most common form of drug-resistant epilepsy in adults and generally requires surgical therapy. Epilepsy surgery provides opportunities to isolate mixed glial cells, such as microglia. Microglia is the resident immune cells in the brain, although the role of these cells in epilepsy remains largely undiscovered. Isolation and characterization of human microglia from epileptic tissue may improve our understanding of their basic function. **Materials and Methods:** Following surgical resection, human brain biopsy tissue was dissociated by mechanical and chemical digestion. Cell pellets were resuspended and cultured to medium containing growth factors and supplements. After 24 hours, floating and weakly attached cells were removed and microglia culture media was added to the plate for one week. Finally, to characterize the isolated cells, immunostaining was performed. After confirming cell phenotype, immunocytochemistry was done. **Results:** Our procedure obtains microglia cultures of high yield from epileptic human brain tissue using a simple method. Isolated microglia express Iba1 marker. **Conclusion:** Microglia obtained from TLE surgery can be used for in vitro and in vivo investigation.

Keywords: Temporal Lobe Epilepsy, Epilepsy Surgery, Microglia, Iba1.

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