

**Investigation of a new type of microglia appearing in the ischemic core area**

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Brain ischemia leads to irreversible tissue necrosis and central nervous system (CNS) dysfunction. On the other hand, many studies have demonstrated that CNS shows reparative potential after brain injury. We previously reported that brain pericytes in the ischemic core area acquired multipotent stem cell activity, and termed the cells "ischemia-induced multipotent stem cells (iSCs)." iSCs can differentiate into various cells, including neurons, astrocytes, oligodendrocytes, and microglia *in vitro*. In this study, we analyzed the behavior and functions of iSCs in the ischemic cortex, using ischemic model mice. In the ischemic core area, there were some Iba1+ cells, which expressed Nestin (iSCs marker). Parabiotic analysis revealed that Iba1+ cells in the ischemic core area were not derived from peripheral blood cells. Iba1+/Nestin+ cells in the ischemic core area abundantly expressed genes that are involved in vascular development. These results suggest that iSCs differentiate into microglia in the ischemic core area, which contribute to maintenance of iSCs niches.