Cell therapy promotes axon remyelination in a mouse model

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Demyelinating diseases, such as multiple sclerosis and leukodystrophy, are characterized by damage to the protective myelin sheath that surrounds the axons of neurons. This demyelination can be caused by an autoimmune response or impaired myelin production by oligodendrocytes.

A new report in *JCI Insight* from Arjun Saha and colleagues at Duke University demonstrates that a cell therapy product called DUOC-01 can accelerate remyelination of axons in mice treated with a demyelinating chemical agent.

DUOC-01 cells, which are derived from banked umbilical cord blood, were transplanted into mice following toxic demyelination. DUOC-01 treatment resulted in faster remyelination and promoted the differentiation of oligodendrocyte progenitor cells.

These results suggest that a cord blood-derived cell product can promote neuronal repair and remyelination.

Future clinical studies will be needed to determine if DUOC-01 cell therapy benefits patients with demyelinating diseases.

More information: Arjun Saha et al, A cord blood monocyte–derived cell therapy product accelerates brain remyelination, *JCI Insight* (2016). DOI: 10.1172/jci.insight.86667