

Umbilical cord cells may treat arthritis

November 15 2010

Umbilical cord stem cells may be useful in the treatment of rheumatoid arthritis (RA). Animal and in vitro experiments, described in BioMed Central's open access journal *Arthritis Research and Therapy*, have shown that mesenchymal stem cells (MSCs) taken from umbilical cord blood can suppress inflammation and attenuate collagen-induced arthritis.

Professor Zhan-guo Li worked with a team of researchers, from Peking University People's Hospital, China, to carry out the study. He said, "Very little is known about umbilical cord MSCs, and there has been no previous report about their use in the treatment of RA. MSCs can exert profound immunosuppression, which encourages their use in the treatment of [autoimmune diseases](#), such as RA. At present, the most common source of MSCs has been bone marrow. However, aspirating bone marrow is an invasive procedure and the number and the differentiating potential of [bone marrow](#) MSCs decrease with age. In contrast, the collection of umbilical cord MSCs does not require any invasive procedure".

The researchers took [immune cells](#) from RA patients and showed that the umbilical MSCs were able to suppress the cells' proliferation, invasive behavior and inflammatory responses. Systemic infusion of the umbilical MSCs into mice was shown to significantly reduce the severity of collagen-induced arthritis. Speaking about the results, Professor Li said, "RA imparts a massive burden on health services worldwide and none of the currently used agents reaches long term drug-free remission. Therefore, a new and more effective therapy for RA will be very

welcome".

More information: Therapeutic potential of human umbilical cord mesenchymal stem cells in the treatment of rheumatoid arthritis, Yanying Liu, Rong Mu, Shiyao Wang, Li Long, Xia Liu, Ru Li, Jian Sun, Jianping Guo, Xiaoping Zhang, Jing Guo, Ping Yu, Chunlei Li, Xiangyuan Liu, Zhenyu Huang, Dapeng Wang, Hu Li, Zhifeng Gu, Bing Liu and Zhanguo Li, Arthritis Research & Therapy (in press), arthritis-research.com/

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