

Rheumatism

Skeletal Disease/Injury | Umbilical Cord Blood, Adipose



Rheumatism is caused by the immune system attacking the lining of the joints, which causes pain, inflammation, swelling, permanent joint damage and deformity. The triggers for this are thought to be a combination of genetics and environmental factors. Oestrogen is also thought to be involved. An estimated 690,000 people in the UK live with rheumatism, frequently women between 40 and 70 years of age. It costs the UK £8 billion per year in productivity losses.

Clinical Trials

There are currently 15 registered trials using stem cells to treat rheumatoid arthritis. NCT01547091 is looking to use umbilical cord-derived stem cells to treat this. NCT00282412 uses allogeneic haematopoietic stem cells from a matched sibling to restore the immune system after ablative therapy, with results due in 2014. NCT01663116 uses adipose-derived stem cells for treatment, with results collection still ongoing.

Animal Studies

A significant study showed that treatment using umbilical cord-derived stem cells was successful in mice, and was the basis of future human clinical trials referenced above.

Patient Studies

Small patient studies have been reported, which gave rise to the above clinical trials.

Summary

The outcomes of the above trials will assist with the development of treatment strategies to provide a long-term repair mechanism, in addition to possible disease avoidance mechanisms.

References

<http://www.webmd.com/rheumatoid-arthritis/an-overview-of-rheumatic-diseases>

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<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3046518/>

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<http://stemcells.nih.gov/info/scireport/chapter6.asp>