

Autism



Neurological | Umbilical Cord Blood



Autism is a spectrum disorder known to be caused by certain gene factors involved in brain development and early life environment. It is more common in boys than girls, with signs and symptoms appearing from age 2 to 3 years. It can be frequently associated with intellectual issues.

Over 500,000 people in the UK have an autism spectrum disorder, costing £27.7 billion each year for services and support. £2.7 billion is support for children, while £25 billion is for adult care. Figures from the London School of Economics shows the lifetime costs are £1.23 million for a person with a combination of autism and intellectual problems, and £800,000 for a person with autism only.

Clinical trials

So far, patient data from Georgia Health Sciences University in Augusta has yet to show dramatic differences in patients treated with stem cells.

A proposed clinical trial is now underway at the Sutter Neuroscience Institute California. Using autologous cord blood, the study aims to try and reverse the effects of this disease where it is not attributable to other factors such as genetic disorders, head injury or prematurity.

The premise of this treatment is that mesenchymal stem cells may positively impact the immune and neural dysregulation. The ability of these cells to migrate to sites of damage and limit pro-inflammatory responses combined with an immunosuppressive capacity is unique and provides the possibility to pass the blood-brain barrier. We await results.

Animal studies

So far, there have been animal models developed with brain lesions, genetic mutations affecting neurotransmitters, or hormonal changes affecting sociability. These are currently being used to understand the biochemical process of this disease.

Summary

At this time there is insufficient data to indicate if this approach will be of benefit, but the early results do seem to show efficacy.

References

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