Cordlife to front stem cell trial for childhood autism in Singapore

Written by theAsianparent

Find out how Cordlife Singapore is pioneering experimental trials using umbilical cord blood to treat children with autism

Could a stem cell trial for childhood autism be the next big thing when it comes to treatment?

Some of us may know a child, or a parent who has a child diagnosed with autism.

Personally, I have a nephew who was diagnosed with mild autism when he was younger. It was heart-breaking for his mother to discover and accept the fact. Over the years, their family had to bear the hefty cost of sending him for speech therapies, medical checks and socio-communication classes as supportive treatments. But all of these sacrifices were worth it in the end, as he now goes to a mainstream primary school and has shown significant improvement in his development.

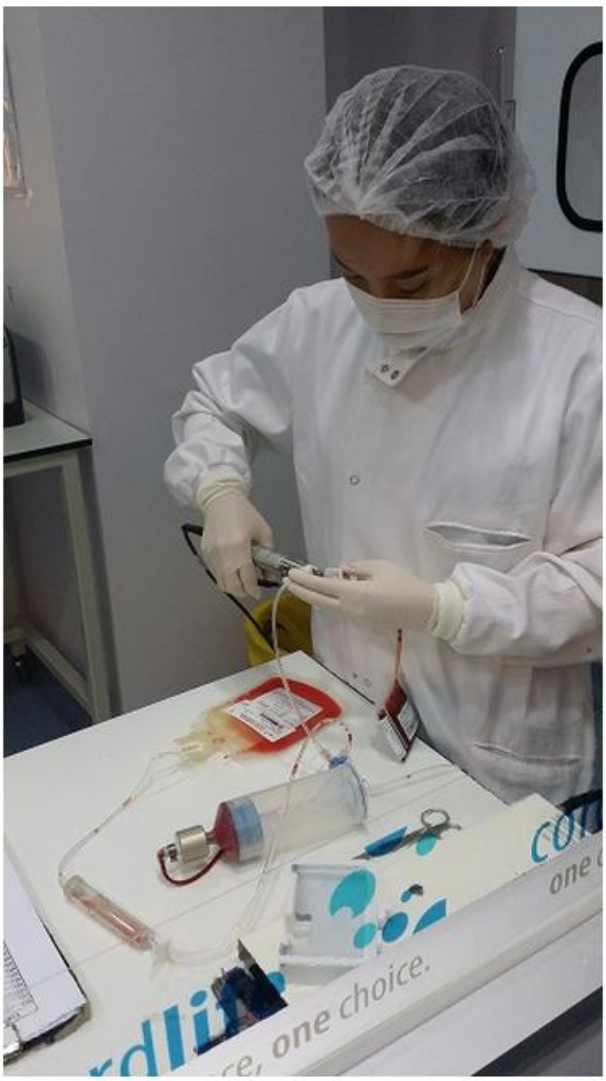
What is autism?

Autism is a life-long developmental disorder, and unfortunately, there is no cure at the moment. One in 167 people in Singapore are affected with autism, and 216 new cases of children with autism are being diagnosed annually in Singapore. It is a heterogeneous disease, which involves multiple risks factors besides genetics.

All these compelling reasons point to the necessity of a medical treatment to be explored – to inch closer to a solution and improve the overall quality of life for the child.

Stem cells - The latest breakthrough to treat autism

Stems cells have proven useful in the treatment of over 80 diseases, including cancer and various blood disorders. With the advancement of medical and technological knowledge, Cordlife has taken the first step to embark on the possibility of carrying out an experimental treatment of autism in Singapore.



Cord blood stored in individual, hermatically-sealed special silicon-based pouch.

Dr Michael G. Chez, a leading Neurologist and Director of Paediatric Neurology and Paediatric Epilepsy at the Sutter Medical Group and Sutter Neuroscience Institute, has pioneered similar studies in the United States. Recently, it's been announced that Dr Chez will be partnering up with Cordlife to embark on this study of child autism here in Singapore.

We had the pleasure to meet with Dr Chez and Dr Tang Kin Fai, Deputy Laboratory Director for Cordlife, who addressed the treatments that are possible with stem cells. With autologous (patient's own) cord blood stem cell, the risk for graft versus host diseases is highly minimised, thanks to the 100% match – as compared to allogeneic options (e.g. receiving cord blood stem cell from a sibling).

Individual pouches of blood samples are stored under cryogenic temperatures (under -150deg) in these vacuum insulated cryogenic storage tanks.

This means that the patient's body would be more receptive to receiving his own cord blood stem cells, which minimises the risk factors of the treatment. Thus, children with autism will undergo a procedure whereby their own cord blood stem cells that were stored in the cord blood banks at birth will be transferred into their systems.

Bringing the stem cell trial procedure to Singapore

Dr Chez shares about an ongoing Autologous Umbilical Cord Blood (AUCB) stem cell trial that started in 2013, which is due to conclude this September. With 31 test subjects monitored and measured, analysis of changes and improvements to their autistic conditions are recorded. Dr Chez assured that the FDA trial of this autologous cord blood stem cell infusion in children with autism is safe – so parents can rest assured that their child will be in good hands.

Preparation lab where cord blood samples are processed.

As for the experimental treatment of autism that will take place in Singapore, the team hopes to include subjects who are predominantly local and meet the following requirements:

- Aged between 2 – 7 years old
- Confirmed diagnosis of autistic disorder
- Availability of patient's own cord blood unit stored at Cordlife with minimum 10 million total nucleated cells per kilogram body weight
- IQ level in the moderate range (i.e. Able to express themselves in simple words)
- Not prone to seizure attacks
- Should not be patients with epilepsy or cerebral palsy (This is to rule out genetics as a probable cause factor)

The trial treatment is expected to run from three to six months, with subjects closely observed as some sites might require a second infusion. More information will be shared once approval from the Ministry of Health and other governing authorities is sought, and the team of local physicians with experience in autism treatment is identified.

The medical teams are hopeful in a breakthrough for the study of child autism. After all, the best prognosis would be complete cure, so these children and their parents feel better and are able to enjoy an improved overall wellbeing.

To find out more about this potential treatment option, please feel free to send an email to therapy@cordlife.com.