

NAME: B641 & B642 (Twins)

AGE: 06/ Both Male

COUNTRY: Argentina

DIAGNOSIS: Spinal muscular atrophy (SMA) Type II

Both twins were born prematurely through IVF procedure at 6 and half months of gestation. The twins were delivered by caesarian section. The third baby was a still birth. B641 had respiratory distress syndrome and intra ventricular hemorrhage at birth and was revived in ICU, Subsequently all milestones were delayed and he could never stand with support. B642 had similar events but with less severity. There was no intra ventricular hemorrhage and he was able to achieve milestones of standing with support but could never walk independently. Both could roll, bear weight on their arms and lift their heads to a comfortable position. When they were 18 to 24 months of age both started to lose power and movements in their limbs and began to deteriorate. They were diagnosed with SMA (Spinal Muscular Atrophy) Type II, completely unknown to their parents. Both boys needed more support with sitting and B642 could no longer stand even with support. However, they continued to have normal mental and speech development.

REASON FOR COMING FOR TREATMENT: Their parents had tried all available conventional treatments in the best of neurology hospitals in their country and found no improvement in their condition which continued to deteriorate till admission. They wanted to try stem cells to improve their activities of daily living.

TREATMENT: Mesenchymal Stem Cells derived from Wharton's Jelly of Human Umbilical cord. Each received 6 injections of stem cells, 3 through Intravenous route in a dose of 1 million cells/kg body weight and 3 injections of adequate cells through intrathecal route.

START DATE OF TREATMENT: 1st Jan 2013

BEFORE TREATMENT: B641 could sit without support for a maximum of 3 minutes. He needed support to get up from bed and could neither stand nor move his legs voluntarily. He could not raise arms above shoulder level. B642 could sit without support on the bed for a maximum of 5 minutes. He needed support to get up from bed, could neither stand nor even move his legs voluntarily. He could not raise his arms above shoulder level.

AFTER TREATMENT: B641 could now sit unsupported on the bed for 15 minutes. However, he needed support to get up from bed and could now move his legs from side to side. His hand movements and shoulder movements were much better (he could raise his arms and hold above the shoulder level). B642 could now sit unsupported on the bed for 20 minutes. He needed support to get up from bed and he could now move his legs from side to side. He could stand for few minutes with the help of hip braces which was not possible earlier. The hand and shoulder movements became much better (he could raise his arms and hold above the shoulder level). At the time of departure the parents commented that the children had got much more improvements beyond their expectations (SMA only worsens with time and never improves as per current medical knowledge). They told us that the twins could sit on their own for up to 1.5 to 2 hours compared to 3-5 minutes earlier, had better sensations in legs and could move their legs more and were more active in their daily activities and become less dependent on their parents.

Further follow-up is underway to observe additional improvements in the twins post-treatment.

Disclaimer: Stem cell therapy using tissue stem cells does not fall under the realm of accepted modalities of treatment. The results reaped from this therapy may differ from person to person.

**To protect identity names of patients not disclosed.*