The effect of adipose-derived stem cell paracrine factor on Neonatal Bilirubin Encephalopathy

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Objective: To observe the therapeutic effect of adipose-derived stem cell paracrine factor (ASCF) on moderate to severe Neonatal Bilirubin Encephalopathy (NBE).

Methods: A total of 44 children with moderate to severe NBE admitted to Hunan Children’s Hospital from August 2014 to April 2016 were enrolled in the study, they were randomly divided into observation group (22 cases) and experimental group (22 cases), two groups in the hospital were treated with conventional therapy (such as exchange transfusion, phototherapy, gangliosides, etc.). In addition, the observation group received 3 times of ASCF (0.2 ml) intrathecal injection at the time of admission for 12 hours, 36 hours and 72 hours and compared two groups outcome of hearing and intelligence and motor function.

Results: Two groups of gender, length of hospital stay, hospital admission age, gestational age, birth weight, total bilirubin peak level, BIND score, NBNA score after admission, etc., the difference was not statistically significant (P>0.05). All patients were followed up until 12 months. The intelligence normal rate was 52.3%. The exercise normal rate was 36.4%. According to the results of follow-up, we found that the hearing outcomes of two groups in 6 months and 12 months are basically identical. The incidence severe and above hearing impairment, being 39.1% and 72.7%, in observation group and control group, respectively, was statistically significant (C²=5.140, P=0.023). Followed up to 6 months, there was no statistically significant difference in intelligence development between the two groups, there was statistically significant difference in motor function development between the two groups, Followed up to 12 months, there was statistically significant difference in intelligence and motor function development between the two groups (The P values were 0.037 and 0.047). Followed up to 12 months, No adverse reactions were observed in the observation group with ASCF intrathecal injection.

Biography
Guinan Li is a Professor at Hunan Children's Hospital, China.

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