Reviewer's report

Title: Reversal of type 1 diabetes via islet beta cell regeneration following immune modulation by cord blood-derived multipotent stem cells

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Reviewer: Anne Joerns

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In the manuscript beneficial, functional changes of C-peptide concentration and HbA1C in T1D subjects were described after immunomodulation of lymphocytes by cord blood-derived stem cells after 4 to 24 weeks. The three analysed groups of six or three persons were small, but the changes are impressive for the clinical practice.

Specific comments

1. Abstract:
   a) Please clarify the abbreviation by changing the order of the words (CB-SCs).
   b) Please explain the “Stem Cell Educator”.

2. Materials and Methods:
   The question arises from which donor or recipient source the CB-SCs in the “Stem Cell Educator” came from.

3. Results:
   a) Please explain the comparative view of the non-treated and treated group (A or B) starting with Fig. 2.
   b) Please include a table 2 after treatment like table 1 before treatment to see the important clinical changes.

4. Discussion:
   a) Please include ref. for the immune cell infiltrate of human pancreatic islets after diabetes manifestation (Richardson SJ et al., 2010). There are clear differences between the infiltration pattern between the NOD mice and the human situation.
   b) Are there other possible explanations for the improvement of beta cell function measures by C-peptide than the regeneration?

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.