Reviewer's report

Title: Evaluation of the muscle strength and motor ability in type II and III spinal muscle atrophy children treated with valproic acid

Version: 2 Date: 24 October 2010

Reviewer: Brunhilde Wirth

Reviewer's report:

Major points:
1.) The authors have corrected the definition of SMA III (initial manifestation after 18 months instead of after 10 months as in the original version of the manuscript). Can we be sure that this has not changed the relative numbers of the patients in this study (see Table 2). Can the authors confirm that no patient needed to be reclassified as SMA type II who was classified as SMA type III in the 1st version of the manuscript?

2.) The RESULTS chapter contains the sentence: "All 22 patients achieved the 20 mg/kg/d of the VPA serum concentration in the period of the study". 20 mg/kg/d is NOT a serum concentration, but the applied VPA dose. Since it was claimed in the MATERIALS AND METHODS chapter that the VPA serum concentrations were measured at 6 and 12 months, it should be easy to provide these data, if not in detail at least by stating that VPA serum levels were in all cases "between ... and ..." for the duration of the study.

3.) Since 5 patients gained weight, it would be helpful to know how much this was in the individual cases expressed as BMI centiles changes. The patients were growing children; simply quoting mean weight and height does not give any information.

4.) I do not understand the data from table 3: why is there a negative sign for all values, if (DISCUSSION) "we noted a better score in the second and fourth, but not in the fifth evaluation"? What about the third evaluation?

5.) As in my previous comment: the data from table 4 have still not been explained.

Minor points:

As in my previous comment, please change "Hammersmith Function Motor Scale" throughout the text, tables and even the reference (no. 21!) to Hammersmith Functional Motor Scale".

As in my previous comment, please use consistently "." rather than "," to indicate decimal positions.

In the BACKGROUND section, third page, last sentence: instead of "Brichta et al. 2003" it should be "Brichta et al. 2006"

In the DISCUSSION section, second page, last sentence: instead of "Swoboda et
al. 2007” it should be ”Swoboda et al. 2009”

**Level of interest:** An article whose findings are important to those with closely related research interests

**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.

**Declaration of competing interests:**

YES, amongst others www.fsma.org, www.initiative-sma.de
Yes, I am involved in the CARNIVAL I trial (NCT00661453)