Reviewer’s report

Title: First clinical experience with the Kora pacemaker system in congenital complete heart block in newborn infants

Version: 1 Date: 24 Mar 2019

Reviewer: Manfred Marx

Reviewer's report:

The main question addressed by the authors - adequate growth and development - is highly relevant and interesting not only for the pediatric cardiology expert.

The question is: what is adequate???

Authors argue: All three infants were at the 10th percentile at birth and continued to grow along the 10th percentile curve. With a close look to percentile curves this is clearly not understandable:

Fig 2  length  10th -> < 10th perc.
Weight  10th -> 10th perc.
Fig. 3 length  10th -> < 10th or 3 rd perc.
Weight  50/25 th -> 10th perc.
Fig 4  length  10th -> < 10th perc.
Weight  25 th -> 10th perc.

That means that growth is not adequate, per definition patients suffer underweight, and there is a drop in percentile curves - either in length or in weight! Thus authors should state that growth is limited (see above) whereas development is adequate. This statement should be in the conclusion part as well as in the discussion.

¾ of discussion are dealing with the advantages of MV sensor, although there is not a single publication that this mechanism works with epicardial leads. Even if this mechanism would work the limitation would be the same: a limitation of stimulated heart rate to 95/min. So it’s unfair to compare the Kora device directly with the Microny system using the argument, that the acceleration sensor is not working in infants. The main advantage of the Microny systems is the stimulation rate, which is significantly higher!

In accordance with the proven limited growth of all 3 patients (see Fig. ) authors should clearly state in the discussion that a higher heart rate might have a significant clinical benefit.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
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Yes

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