Author’s response to reviews

Title: Assessment of anterior-posterior spinal curvatures in children suffering from hypopituitarism

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Author’s response to reviews:

Reviewer 1:
Introduction:

1. Referring to the quality of life and strength of muscle we have just described those problems as a very important subjects in children suffering from pituitary hypopituitarism. However they will be studied in further researches. It is mentioned in paragraphs 340-341, Conclusions, page 16

Methods:

1. One method was chosen after analysing literature and researches. We conducted the measurement of curvatures by simple, economic, non invasive methods such as mechanic inclinometer [Walicka-Cupryś K, Drzuźbicki M. Methodology of gravitational inclinometer application in evaluation of anterior-posterior spinal curvature. 20th European Congress of Physical and Rehabilitation Medicine. Estoril - Lisbon 23-28, 2016; Walicka-Cupryś K, Drzał-Grabiec J, Mrozkowiak M. Porównanie parametrów krzywizn kręgosłupa w płaszczyźnie strzałkowej mierzonych metodą fotogrametryczną i metodą inklinometryczną. Ortop Traumatol Rehab. 2013;5;15:429-437]. This method may be repeated in all physiotherapists’ offices and rehabilitation wards.

2. The group of patients with pituitary hypopituitarism is small (about 1/10 000) and specific. What is more we have chosen patients without any additional problems.
3. According to the size of the measurement error we have put in table 5 and table 6 standard deviation parameters.

4. The experience of researches is about 10 years of working with pediatric patients and graduating such courses as FITS which is 119-120, Methods, page 5.

5. We have described children’s age with minimum, maximum, and mean value. What is more referring to the literature we have chosen children whose posture do not deviated because of age changes as Czaprowski 2013 [References 20]

6. The research group was too small to divided into age range.

7. The paragraph 228 was corrected (chest angle into angle of thoracic kyphosis), paragraph 231, Result, page 11.

8. Measured parameters – para zmiennych (Table 8), Result, page 12.

9. We included all patients (33) because all of them presents problem with changed parameters of body compositions and they met inclusion criteria.

Discussion

1. The scoliosis is three dimension problem of posture. The scoliosis is not only failure posture in plantar plane. The scoliosis includes the problem in saggital plane. That is why we have measured saggital plane curvature which may be disordered in patients with scoliosis or may be the symptoms of scoliosis. However the scoliosis will be measured in further researches in patients with growth hormone deficiency. It is mentioned in paragraphs 340-341, Conclusions, page 16.

2. None of the mentioned studies referred to patients suffering from pituitary hypopituitarism. Our research is the first which showed how the saggital curvatures of the spine look like in children suffering from pituitary hypopituitarism

3. Stupnicki described patients with Turner syndrome who have problem with growth hormone deficiency. He has also described muscles which influence body posture such as abdominal muscles. We are conscious that we should also examine muscle strength of those muscle. That is why we will do it in further studies. Paragraphs 340-341, Conclusions, page 16.
Referring to changing body position it is connected with muscle strength. The reviewer is right that we did not study it. However muscle strength and fitness is related to body posture. We did not want to mentioned to many subjects because we would like to focus on just body posture of patients suffering from pituitary hypopituitarism. We have showed the increased alpha angle and lumbar lordosis which is connected with weak abdominal muscles.

4. We added: Future studies need to be done referring to body posture of patients with growth hormone deficiency. More factors for sure influence the body posture such as muscle strength. That is why more studies should be done according to others important items. What is more scoliosis the might be interesting subjects as well as physical activity of further studies. Paragraphs 326-330, Discussion, page 15.

5. We have added more literature as the reviewer asked


Paragraphs 425-433, References, page 19

Reviewer 2:

1. The group of patients with pituitary hypopituitarism is small (about 1/10 000) and specific. What is more we have chosen patients without any additional problems. That is why finding as many girls as boys was hard. What is more there is no research that there are any changes in body posture referring to gender.

2. Referring to methodology we tried to performed the study of the posture according to earlier researches about the posture presented in literature.
3. Control group was not mentioned because norms from Saunders are now the only valid. These are not enough researches which mentioned norms in children suffering from pituitary hypopituitarism.

4. We are conscious about changed body composition in children suffering from pituitary hypopituitarism which may influence body posture. These are a lot of aspects which may affect the body posture. For sure lack of physical activity and hormone therapy.

Reviewer 3:
1. We think that the title is adequate because we presented the assessment not the design.

2. & 4 We have made the correction of English including grammar.

3. Abbreviation was checked and corrected.

Methods:
1. We have described children’s age with minimum, maximum, and mean value. What is more referring to the literature we have chosen children whose posture do not deviated because of age changes as Czaprowski 2013 described.

2. We mentioned inclusion criteria and exclusion in 121-124, Methods, page 5.

3. We supposed that the procedure of BMI is so much universal that it should not be described.

4. Referring to 134 we put the name of the equipment in paragraph 141, Methods, page 6.

5. We added the adequate literature paragraph 149, Methods, page 7:

6. We described the Figure 1 in paragraph 156, Methods, page 7.

7. We have changed the number of the table into table 2, paragraph 165, Methods, page 8.

8. We have added the degree symbol. Table 2, Methods, page 8.

9. The norms of Saunder refer to norm of children and they were mentioned in other researches such as Czaprowski.


Results:

1. The numbers of tables were checked and we think that they are correct.

2. We think, that tables are more readable when they are divided.

3. The statistical method was mentioned in 180 – 186 an now we put it into methodology 170 – 175, Methods, page 8.

4. The table 5 is described in paragraphs 188 – 189, Result, page 9.

5. We compared non the same amount of patients because annual amount of patients cured by rhGH is just a few in a year. What is more the inclusion criteria was the age between 10 – 14 when there is no body posture deviation. The patients will be assessed after 1,5 year of treatment.

6. The aim of the study was to compare the patients cured with rhGH and without the drug. Non ethical will be changed the group just because of amount non because of physical prescription. Our aim was to check the posture in both group of patients. For sure You are right that the amount of patients is not the same. We will examine the body posture after applying the drug.
7. The information about figure 2 is 219, Result, page 10.

8. Table 8 seems to be important because we think that there is connection between the BMI, height, weight and curvatures. However we have not seen such correlation what was impressive for us. It is obvious in generally acknowledge that sedentary life may lead to failure posture. However our examination did not show such a relationship.

9. We have added the table 9 in the text in paragraph 258, Result, page 13.

Discussion:

1. We corrected discussion.

2. We added short information about results, paragraphs 279-285, Discussion, page 14.

3. We added: Future studies need to be done referring to body posture of patients with growth hormone deficiency. More factors for sure influence the body posture such as muscle strength. That is why more studies should be done according to others important items. What is more scoliosis the might be interesting subjects as well as physical activity of further studies. Paragraphs 326-330, Discussion, page 15.

Reviewer 4:

We have made the correction of English.