Author’s response to reviews

Title: What is the Difference in Morphologic Features of the Lumbar Vertebrae Between Caucasian and Taiwanese Subjects? A CT-based Study: Implication of Pedicle Screws Placement via Roy-Camille or Weinstein Methods

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Version: 6 Date: 14 Mar 2019

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Responses to reviewers’ comments:

Manuscript ID (BMSD-D-17-01143R6)

We wish to thank the reviewers for their time and helpful comments. We believe the quality of the manuscript has improved and hope that the reviewers will agree with us following their review of the new version.

The sentences we verified were presented with bold and underline. Please note that the reviewer comments refer to a previous version while our responses refer to the revised version of manuscript text in terms of page numbers, etc.

Response to reviewer #2:

Harvinder Singh Chhabra (Reviewer 2)

Reviewer's New Comment:
Based on the G*power software, the parameters were set up as follows: \( \alpha = 0.05 \), equal sample sizes (N2/N1 = 1), power =0.8 and two tails in the formula. With the given results between Taiwanese (mean:-10.1, SD: 8.1) and Caucasian populations (mean:-14.3, SD:12), the effective sample size for TITA at L3 was 95”.

Authors should explain N2, N1 in his study and how their ratio is taken as one. Authors have not provided sufficient information to back (calculate) the sample size.

Response:

Thank you for the comments. We agreed with reviewer’s comments.

The reason why we selected N2/N1 =1 (N2 defined as numbers in Caucasian subjects. N1 defined as numbers in Taiwanese subjects) was that we hoped the numbers in one group would not overwhelm that in the other group during comparison. We might compare two groups in approximately equal numbers. Consequently, we set up N2/N1 =1. We might also set up N2/N1 ratio as either 0.9 or 0.8, respectively. Accordingly, we will have different recommended sample sizes after calculation by G*power software. We might also calculate the samples sizes based on different N2/N1 ratio (N2/N1= 0.9 or 0.8, respectively).

Based on the G*Power software (Heinrich-Heine Universitat at D’usseldorf, D’usseldorf, Germany), we set up the parameters in the formula: alpha=0.05, power =0.8, two-tail, which were the same regardless of N2/N1 ratio. Based on the descriptions in the previous paragraph, we set up N2/N1=1, 0.9 and 0.8, respectively. We defined N2 as numbers in Caucasian subjects, and N1 as numbers in Taiwanese subjects.

We set up the parameters in the following: N2/N1=1, \( \alpha = 0.05 \), power =0.8 and two tails in the formula. With the given results between Taiwanese (mean:-10.1, SD: 8.1) and Caucasian populations (mean:-14.3, SD:12), the recommended sample sizes for L3 TITA comparison between Taiwanese and Caucasian subjects were 95 and 95, respectively.

We set up the parameters in the following: N2/N1 =0.9, \( \alpha = 0.05 \), power =0.8 and two tails in the formula. With the given results between Taiwanese (mean:-10.1, SD:8.1) and Caucasian populations (mean:-14.3, SD:12), the recommended sample sizes for L3 TITA comparison between Taiwanese and Caucasian subjects were 100 and 90, respectively. The calculation was listed in the following.

We set up the parameters in the following: N2/N1 =0.8, \( \alpha = 0.05 \), power =0.8 and two tails in the formula. With the given results between Taiwanese (mean:-10.1, SD: 8.1) and Caucasian populations (mean:-14.3, SD:12), the recommended sample sizes for L3 TITA comparison between Taiwanese and Caucasian subjects were 107 and 85, respectively. The calculation was listed in the following.

Moreover, the following sentences were corrected with bold and underline in the result section page 12 lines 5 to 7: “With the given results between Taiwanese (mean:-10.1, SD: 8.1) and Caucasian populations (mean:-14.3, SD:12), the recommended sample size for TITA at L3 was
95.”. We cancelled the word of “effective” and changed to “recommended” in order to avoid misunderstanding.

Best regards,

Po-Hsin Chou