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LETTER TO THE EDITOR

Letter to the Editor concerning "T1 pelvic angle is associated with rapid progression of hip arthrosis" by Nakamura K, et al. (Eur Spine J [2023] https://doi.org/10.1007/s00586-023–07580-0)

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Dear Editor,

We read the article by Nakamura et al.[1], which reported that global spinal alignment is associated with rapid progression of hip arthrosis; however, considering the recent advances in this area, we have several concerns regarding this paper.

First, regarding pelvic incidence (PI), the authors used PI 40° as the cutoff, following the limit set by Rivière et al. [2], who divided PI into three groups: PI < 40°, PI 40°–60°, and PI > 60°. Previous publication has noted that PI tends to be larger when hip arthrosis progresses rapidly [3]. To clarify the correlation between PI and rapid progression of hip arthrosis, it may be beneficial to divide PI into three groups according to Rivière's original work, or to stratify the PI into three groups with increments of 10° (i.e., 40°, 50°, 60°).

Second, there are concerns about whether osteoporosis is a confounding factor, as the rapid progression of hip arthrosis is significantly older. We are interested to hear the authors' thoughts on this possibility.

Third, as the authors pointed out, subchondral insufficiency fractures may contribute to the rapid progression of hip arthritis [4], despite this no such cases were excluded, raising the question of whether they were properly differentiated.

Last, while we believe this study provides valuable insight into the relationship between global spinal alignment and the rapid progression of hip arthritis, we believe that further biomechanical investigations are needed. For example, finite element analysis (FEA) could be performed for simulating the loading conditions that occur in vivo to determine the stresses and strains that occur at the hip joint due to spinal misalignment and to investigate how these factors contribute to hip arthrosis progression.

Overall, we believe that the collective knowledge of whole spine alignment and RDC demonstrated by the authors will allow for early diagnosis/intervention for patients at risk for RDC and improve their prognosis. We would appreciate your comments on these points to further confirm the results of this remarkable study.

Declarations

Conflict of interest The authors declare that the authors have no competing interest to declare.

IRB approval Not applicable.

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