Letter to the Editor concerning “Osteolysis after cervical disc arthroplasty” by Joaquim AF, et al. (Eur Spine J; [2020]: doi: 10.1007/s00586-020-06,578-2)

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With great interest, we read the article titled “Osteolysis after cervical disc arthroplasty” written by Joaquim et al. in European Spine Journal [1]. The authors conducted a systematic literature review of osteolysis after cervical disk arthroplasty (CDA) and discussed the causes, incidence, and management. We highly appreciate their contribution to this topic; however, some issues in the article may mislead the readers, which needs further clarification.

First, bone resorption may be a different phenomenon of the osteolysis after CDA. Bone resorption tends to be a natural physiological change that favors the early bone remodeling process [2] and follows a stable radiographic feature. In contrast, osteolysis is a long-term pathological process of progressive destruction of periprosthetic bone, characterized as a progressive radiolucent line or cavitation at the implant-bone interface on X-rays and CT scans [3]. The authors mentioned anterior bone loss following CDA in their article was mainly pertaining to bone remodeling rather than osteolysis. The two concepts should not be confused.

Second, we noticed that two of the screened articles were from the same medical center and the same follow-up point [1]. However, the authors included and analyzed them separately, which may cause inaccurate conclusions. We suggest that the authors should re-screen the original articles or analyze the two articles together.

Third, the proposed classification of bone loss was less clinically instructive. Although there was still no consensus on the classification system of bone loss, most of the current classification systems were based on the radiographic features. According to the published articles and our findings

[4], none of them reported a relative motion between prosthesis and endplates during extension–flexion motion even with severe bone loss. Therefore, it is not appropriated for motion between prosthesis and endplates as an evaluation index. Furthermore, very few patients after CDA suffered more than 20% anterior bone loss at the arthroplasty segment, and some patients with only more than 10% anterior bone loss may occur endplate collapse. Thus, their proposed bone loss classification system was difficult to distinguish patients who really needed a further monitor.

Once again, we congratulate the authors for their hard work and hope that the readers may benefit from it.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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