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Comment to the Article „Classifications of Acetabular Defects: Do They Provide an Objective Evidence for Complexity of Revision Hip Joint Arthroplasty? (Critical Literature Review and Own Cases)“

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The paper „Classifications of acetabular defects: do they provide an objective evidence for complexity of revision hip joint arthroplasty?“ aroused much interest in me as the specialist constantly dealing with such patients. This issue which we are actively discussing during conferences took the shaper of a scientific and applied research.

The authors are right that there is no ideal classification and defect evaluation is always subjective. All classifications were created with the same purpose – to unify the algorithm of to dos for the surgeon. All systems are structured from simple to complex but usually a sort of puzzle always remains in respect of borderline defects. Literature reviews dedicated to defects reconstruction most often use AAOS and W. Paprosky classifications [1].

• *Comment on the Article*

Tikhilov R.M., Shubnyakov I.I., Denisov A.O. [Classifications of Acetabular Defects: Do They Provide an Objective Evidence for Complexity of Revision Hip Joint Arthroplasty? (Critical Literature Review and Own Cases)]. *Travmatologiya i ortopediya Rossii* [Traumatology and Orthopedics of Russia]. 2019;25(1):122-141. (In Russ.).
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The most widespread classification of W. Paprosky (1994) presented in table 5 differentiates the defects most precisely. But let us imagine that a defect classified as IIc is only a couple millimeters away from IIIb basing of medial and proximal aspects. In case of a poor bone quality after removal of implants we may end up with IIIb type. Surgical tactics can ever greater change while standard x-ray method especially in cemented joint replacement doesn’t always reflect the true scope of lesion. However, literature has publications were authors are analyzing one fixation method or a combination basing, for example, on A. Gross classification, but fixation method doesn’t depend on the defect size. Authors can use an anti-protrusion cage combined with augments [2]. So, can we use a universal implant with additional devices and do without profound classification?

W. Paprosky classification is 25 years old. At the time of its creation such high-tech components like trabecular tantalum which was developed only at the end of 90ies were not available [3,4]. When using porous tantalum we strive for biological fixation, faster integration and larger defects „eligible“ for replacement. There are augments as well as „cup-cage“ system available for

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surgeons. All those appeared much later than classification itself, for this reasons there are regular publications aiming to optimize reconstruction options [5, 6].

Technologies are evolving and now we have CT and 3D helping to understand the defects. However, some authors use no classifications at all when applying 3D components in revision surgery [7]. Probably, the use of 3D printing requires no classification while the implant will be precisely customized and there is no need for classification algorithms.

The authors of the present review correctly noted that classifications are still in place, they are ambiguous, while visualization and reconstructive methods are progressing and continue to be enhanced. But do we need classifications in 3D techniques where the defects are so large and we have a precise plan of their substitution? Do we need a classification to ensure communication between the specialists? How accurate and useful is the classification when a number of specialists are using same type reconstruction methods almost for all complex defect types?

As technology evolved above questions will be acute and the specialists will be involved into discussions and attempts to create something new. Most likely there is no classification more useful and more dynamic for the practical work than the system of W. Paprosky.

References

1. Baauw M., Van Hooff M.L., Spruit M. Current construct options for revision of large acetabular defects: A systematic review. *JBJS Rev.* 2016;4(11). pii: 10.2106/JBJS.RVW.15.00119. DOI: 10.2106/JBJS.RVW.15.00119.
2. Mäkinen T.J., Abolghasemian M,. Watts E., Fichman S.G., Kuzyk P., Safir O.A. et al. Management of massive acetabular bone defects in revision arthroplasty of the hip using a reconstruction cage and porous metal augment. *Bone Joint J.* 2017;99-B(5):607-613. DOI: 10.1302/0301-620X.99B5.BJJ-2014-0264.R3.
3. Gehrke T., Bangert Y., Schwantes B., Gebauer M., Kendoff D. Acetabular revision in THA using tantalum augments combined with impaction bone grafting. *Hip Int.* 2013;23(4):359-365. DOI: 10.5301/hipint.5000044.
4. Jenkins D.R., Odland A.N., Sierra R.J., Hanssen A.D., Lewallen D.G. Minimum five-year outcomes with porous tantalum acetabular cup and augment construct in complex revision total hip arthroplasty. *J Bone Joint Surg Am.* 2017;99(10):e49. DOI: 10.2106/JBJS.16.00125.
5. Rogers B.A., Whittingham-Jones P.M., Mitchell P.A., Safir O.A., Bircher M.D., Gross A.E. The reconstruction of periprosthetic pelvic discontinuity. *J Arthroplasty.* 2012;27(8):1499-1506.e1. DOI: 10.1016/j.arth.2011.12.017.
6. Petrie J., Sassoon A., Haidukewych G.J. Pelvic discontinuity: current solutions. *Bone Joint J.* 2013;95-B(11 Suppl A):109-113. DOI: 10.1302/0301-620X.95B11.32764.
7. Hughes A.J., Debuitleir C., Soden P., O'Donnchadha B., Tansey A., Abdulkarim A. et al. 3D Printing AIDS acetabular reconstruction in complex revision hip arthroplasty. *Adv Orthop.* 2017;2017:8925050. DOI: 10.1155/2017/8925050

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