



Letter to editor concerning the article “muscle pedicle bone grafting using the anterior one-third of the gluteus medius attached to the greater trochanter for treatment of Association Research Circulation Osseous stage II osteonecrosis of the femoral head” (Cho KJ et al. International Orthopaedics. doi: 10.1007/s00264-018-3839-5)

Ali Parsa^{1,2}

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Dear Authors,

I have read with great interest your article entitled, “Muscle pedicle bone grafting using the anterior one-third of the gluteus medius attached to the greater trochanter for treatment of Association Research Circulation Osseous stage II osteonecrosis of the femoral head” [1].

There is no standard treatment option for osteonecrosis of femoral head (ONFH), but the most common procedure of pre-collapse stages is core decompression (CD) while for post-collapse patients, hip replacement is the most common procedure. In the last two decades, the total number of procedures performed for ONFH is doubled [2]. Sadly, the long-term results of hip preserving procedures are not favourable, so the surgical techniques have to evolve in order to achieve better results [3]. The authors reported mid-term follow-up of a series of muscle pedicle graft treatment for ONFH. The technique is encouraging and I would like to congratulate authors for their study, theoretically, procedures that provide a blood supply for necrotic area could be more effective than conventional CD or even structural allografts. Conversion to total hip arthroplasty (THA) and any progress or changes in staging were considered as outcome measurement in this study which are used repeatedly in same studies [3–5]. The authors reported success rate of 87.5% because at final follow-up, only three out of 24 hips have been converted to THA; I do

not agree with this result. In my point of view, a preserving hip procedure fails when a further procedure including THA is needed. This time can reflect accurately the survivor rate.

One third of hips in your series has been experienced progress to higher ARCO stages at final follow-up, it is possible some of those required THA but not recommended yet. Furthermore, almost always it takes time for a patient to accept joint replacement procedures and decide to ask his/her surgeon to schedule a THA, so by choosing the “conversion to THA” as main indicator of failure, the efficacy of procedure is overestimated.

Compliance with ethical standards

Conflict of interest The author declares that there is no conflict of interest.

References

1. Cho KJ, Park KS, Yoon TR (2018) Muscle pedicle bone grafting using the anterior one-third of the gluteus medius attached to the greater trochanter for treatment of Association Research Circulation Osseous stage II osteonecrosis of the femoral head. *Int Orthop*:1–7
2. Johnson AJ, Mont MA, Tsao AK, Jones LC (2014) Treatment of femoral head osteonecrosis in the United States: 16-year analysis of the Nationwide Inpatient Sample. *Clin Orthop Relat Res* 472(2):617–623
3. Kang JS, Suh YJ, Moon KH, Park JS, Roh TH, Park MH, Ryu DJ (2018) Clinical efficiency of bone marrow mesenchymal stem cell implantation for osteonecrosis of the femoral head: a matched pair control study with simple core decompression. *Stem Cell Res Ther* 9(1):274
4. Seyler TM, Marker DR, Ulrich SD, Fatscher T, Mont MA (2008) Nonvascularized bone grafting defers joint arthroplasty in hip osteonecrosis. *Clin Orthop Relat Res* 466(5):1125–1132
5. Hauzeur JP, De Maertelaer V, Baudoux E, Malaise M, Beguin Y, Gangji V (2018) Inefficacy of autologous bone marrow concentrate in stage three osteonecrosis: a randomized controlled double-blind trial. *Int Orthop* 42(7):1429–1435

✉ Ali Parsa
Parsaa@mums.ac.ir; aliparsadr@yahoo.com

¹ Hip Preservation Surgery Division, Department of Orthopedic Surgery, Massachusetts General Hospital at Harvard Medical School, Cambridge street, # 4, Boston, MA 02114, USA

² Orthopedic Research Center, Department of Orthopedic Surgery, Mashhad University of Medical Sciences, Mashhad, Iran