

Reviewed by 01217232

Manuscript Number	18150
Manuscript Title	Current Concepts on Osteonecrosis of the Femoral Head
Review Time	2015-05-21 09:32

In the manuscript entitled “Current Concepts on Osteonecrosis of the Femoral Head”, Dr. Lane et al have summarized the history and recent advances on the etiology, pathogenesis, diagnosis, treatment options, and prognosis of osteonecrosis of the femoral head. Early diagnosis with MRI is emphasized; treatment options including surgical and non-surgical modalities have been provided, and personalized treatment has been suggested according to the stages at which the care is initiated (Fig.8 in this manuscript). In the section of “biological agents”, the authors have provided data on the treatment of ONFH with MSCs or bone marrow aspirates. This reviewer wonders if the advice effects of the delivery of the stem cells should be emphasized, for high concentrations of cells that are delivered via direct femoral arterial perfusion or the catheterization of the medial, lateral, or obturator artery might bring the potential risk of artery occlusion by cell emboli.

Both intrarterial and intravenous releases of stem cells have been utilized in stem cell implantation. The typical complications of BMMC transplantation are infection, tumor induction and morbidity at the removal site on the iliac crest. However, up to date the risk of artery occlusion by cell emboli has not been described in the medical literature though this is reasonable concern that future studies will have to address.

Reviewed by 02444711

Manuscript Number	18150
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Review Time	2015-05-14 15:35

This is a review article on osteonecrosis of femoral head. This is a useful review for readers on the aspects of etiology, diagnosis, assessment, non-surgical and surgical management of osteonecrosis. However, as a new review article in the field, I do not see any new information from the previous review articles. One of my observations

is that many so-called 'recent' studies mentioned in the article referred to those published in 1981-2008 that are not really 'recent'. Therefore, an update of literature search and reference list is needed. Particularly, I found those new or alternative treatments, e.g. ESWT, stem cells, are quite outdated. Therefore, they need more updated information for the readers. Minor comments include (1) many abbreviations do not have the long form, e.g. SIF, THR, etc. Please specify them clearly; (2) some pictures are distorted. Please adjust their aspect ratio.

The term "recent studies" was only used once in line 207 making reference to the study of Ikemura in 2010. This term has been switch to "a recent study"(highlighted in yellow in line 207) and the reference to this paper has been also added. We also included 4 more recent articles to the text: Sen et al. (Journal of Arthroplasty 2012, Hauzeur et al. (Stem Cell International 2010), Mao et al. (Bone 2013) and Zhao et al. (2012). The rest of the bibliography compounds the most relevant articles regarding the etiology, pathology and management of osteonecrosis of the femoral head like Ficat (Williams and Wilkins 1961), Urbaniak (JBJS 1995), Gangi (JBJS 2004), Hernigou (JBJS 2005), Ikemura (2010), Jawad (CORR 2012), Zalavras (JAAOS 2014).

Reviewed by 00460875

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Review Time	2015-04-28 21:36

The topic is covered in a clear and complete manner. The iconography presented is excellent. References are updated