

عنوان مقاله:

Available Findings Fail to Provide Strong Evidence of the Role of Bone Morphogenetic Protein-2 in Femoral Head Osteonecrosis

محل انتشار:

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خلاصه مقاله:

Despite widespread research on non-traumatic femoral head osteonecrosis (FHON), there is no consensus about preventative treatment options. Insufficient blood supply and increased intra-osseous pressure are the initiating events in the majority of cases. BMPs are growth factors that belong to the transforming growth factor β (TGF β) superfamily. Two specific formulations of BMPs have already been approved by the FDA: 1. BMP-2 (Infused, Medtronic) for the treatment of tibial open fractures and spinal fusion; 2. BMP-7 (OP-1, Stryker) in the setting of long bone non-unions. To our knowledge there is no published work reviewing the utility of BMP-2 in the setting of FHON. Online databases (EMBASE, Cochrane, MEDLINE and PubMed) for literature relating to the use of BMP-2 in the treatment of FHON on 2nd June 2017. Animal studies: A total of 169 animal subjects with induced FHON were treated with BMP-2 in all the included in vivo studies. Improved histological parameters, areas of revascularization, areas of new bone formation and osteoid deposition were seen in all studies. The number of osteoclasts decreased post operatively, in the ibandronate and BMP-2 group. Human studies: In combination, 96 human hips were treated in two studies utilizing BMP-2 and mean follow-up was at least five years. Success rate of BMP-2 was above 80 % (based on Harris score and WOMAC score) in both studies. Both are level III studies. The present review of animal and clinical studies could not find well-designed prospective comparable studies with large sample size and preliminary evidence is not sufficient to supports the utilization of BMP-2, and its impact on the midterm outcomes of FHON. Level of evidence: III

کلمات کلیدی:

BMP-2, femoral head, Osteonecrosis

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