Clinical effectiveness and cost-effectiveness of bone morphogenetic proteins in the non-healing of fractures and spinal fusion: a systematic review


Record Status
This is a bibliographic record of a published health technology assessment from a member of INAHTA. No evaluation of the quality of this assessment has been made for the HTA database.

Citation

Authors' objectives
"The objectives of this study were to assess the clinical effectiveness and cost-effectiveness of bone morphogenetic protein (BMP) for the treatment of spinal fusions and the healing of fractures compared with the current standards of care."

(from executive summary)

Authors' conclusions
Additional BMP treatment plus conventional interventions is more effective than the conventional intervention alone for union of acute open tibial fractures. The cost-effectiveness of additional BMP may be improved if the price of BMP is reduced or BMP is mainly used in severe cases.

The use of BMP may eliminate the need for autogenous bone grafting so that costs and complications related to harvesting autograft can be avoided. In non-unions, there is no evidence that BMP is more or less effective than bone graft; however, it is currently used when bone graft and other treatments have failed.

The use of BMP-2 in spinal fusion surgery seems more effective than autogenous bone graft in terms of radiographic spinal fusion among patients with single-level degenerative disc disease. There is a lack of evidence about the effectiveness of BMP for other spinal disorders including spondylolisthesis and spinal stenosis. There was limited evidence showing that BMP is associated with greater improvement in clinical outcomes such as Oswestry Disability Index score, SF-36 score and back and leg pain. According to the results of economic evaluation, the use of BMP for spinal fusion is unlikely to be cost-effective.

Project page URL
http://www.hta.ac.uk/1481

INAHTA brief and checklist

Indexing Status
Subject indexing assigned by CRD

MeSH
Bone Morphogenetic Proteins; Fractures, Cartilage; Spinal Fusion

Language Published
English

Country of organisation
England

Address for correspondence
NETSCC, Health Technology Assessment, Alpha House, University of Southampton Science Park, Southampton, SO16 7NS UK Tel: +44 23 8059 5586 Email: hta@hta.ac.uk

AccessionNumber
32007000530

Date bibliographic record published
23/10/2007

Date abstract record published
23/10/2007