

언어구분 KOR

논문구분 원저/구연

논문분야 척추

논문제목 골찌꺼기 (**Bone dust**)와 장골편의 골형성 능력의 비교

영문제목 **Comparison of the Osteogenic Potential of Iliac Bone Chips and Bone Dust**

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서론 : There is no comparative study of the in vitro and in vivo osteogenic potential of iliac bone chips (autogenous iliac cancellous bone chip) compared to bone dust generated during the decortication process with a high speed burr in spine fracture or fusion surgery. The purpose of this study is to compare the osteogenic potential of three sizes of bone dust with iliac bone chips and to determine whether bone dusts can be used as a bone graft substitute.

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결과 : Although all three bone dust groups were less active with regards to cell proliferation, ALP activity and the degree of mineralization, than were bone chips, they still exhibited osteogenic potential. Furthermore, there was no significant difference between three bone dust groups. The three bone dust groups did show greater absorbable area and change of the tissue density than did the iliac bone chip group. Again, there was no significant difference between the three bone dust groups in this regard. Histologically, specimens from the bone dusts groups had a higher osteoclast cell number than specimens from the iliac bone chip group.

결론 : The osteogenic potential of bone dust is lower than that of iliac bone chips and the absorption speed of bone dust in vivo is faster than that of iliac bone chips. The increased resorption speed appeared to result from an increase in osteoclast cell number. Therefore, caution needs to be used when surgeons employ bone dust as a bone graft substitute.

acknowledgment :

Spine fracture surgery, Bone chip, Bone dust, High speed burr, Osteogenic potential