PARATHYROID HORMONE 1-84 ACCELERATES FRACTURE HEALING IN PUBIC BONES OF ELDERLY OSTEOPOROTIC WOMEN

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PURPOSE:
PTH is known to be a very effective treatment of severe osteoporosis, but also shows to accelerate fracture healing in both animals and humans. Fractures of pubic bones often occur in elderly osteoporotic women. These fractures are associated with the highest morbidity and mortality. Pelvic fractures represent 3% of all skeletal fractures and single pubic rami and avulsion fractures are most common. But fracture healing is delayed up to 12 or 16 weeks by impaired bone quality causing long-term pain and immobility.

The aim of the study was to test whether parathyroid hormone 1-84 is able to improve fracture healing and restore mobility.

PATIENTS AND METHODS:
Five female osteoporotic patients (mean age: 82 yrs) sustaining a fracture of the pubic bone were included in this study. All patients had fractures of the os pubis and os ischium together (3 left and 2 on the right side) and without disruption of the pelvic ring and hemorrhage or multiple injuries. Patients were admitted to the hospital and had X-rays taken and standard laboratory examinations. A CT scan and X-ray was done between day 0 and 2 after fracture which was repeated at weeks 4 and 8. Patients then received a daily injection of parathyroid hormone 1-84 until fractures were healed. Additionally a supplementation of 1000 mg of calcium and 800 IU of vitamin D was administered. Two of the patients have had a bisphosphonate treatment prior to fractures.

RESULTS:
In all patients included in this study fractures of pubic bone were healed at 8 weeks after fracture which was confirmed by CT scanning and x-ray.

CONCLUSION:
Parathyroid hormone 1-84 is able to accelerate fracture healing of pubic bones in elderly osteoporotic patients. Additionally it reduces pain and enables mobility at an earlier point of time. Finally we found normal age related ADL activities in all patients after 8 weeks of 1-84 PTH treatment.

REFERENCES:
Parathyroid hormone enhances fracture healing: A preliminary report HOLZER G ; MAJESKA R. J. ; LUNDY M. W. ; HARTKE J. R ; EINHORN T. A ; Clinical orthopaedics and related research 1999, no366, pp. 258-263