[O01] RATE OF CHANGE IN SERUM BONE TURNOVER MARKERS IN PATIENTS WITH CHARCOT OSTEOARTHROPATHY TREATED WITH RECOMBINANT HUMAN PARATHYROID HORMONE – DATA FROM A DOUBLE BLIND RANDOMISED PLACEBO CONTROLLED CLINICAL TRIAL

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Aim: There is a growing body of evidence to show that parathyroid hormone is an effective anabolic therapy for the enhancement of bone repair, following fracture. Furthermore, healing of fractures can be monitored with markers of bone turnover.

The main objective of this study was to measure prospectively bone markers and assess fracture healing in patients with acute Charcot osteoarthropathy treated with recombinant human parathyroid hormone (rh PTH 1-84) / placebo until clinical resolution or up to a period of 12 months.

Method: We carried out a double blind randomised placebo controlled clinical trial in 48 patients with acute Charcot osteoarthropathy. Serum concentration of the bone turnover markers amino-terminal propeptide of type I procollagen (P1NP) and carboxyterminal telopeptide of type 1 collagen (CTX) were measured at presentation and then at 3 monthly intervals until clinical resolution of the osteoarthropathy or up to a period of 12 months. The rate of change of the serum concentration of these bone turnover markers from baseline and to clinical resolution was compared between the active and placebo groups.

Results/Discussion: There was a significant reduction in the serum concentration of P1NP during the study period, (P=0.004). However, the rate of change in P1NP was not significantly different between the active and placebo groups (P=0.13).

The serum concentration of CTX remained unchanged from presentation to follow up (P=0.92). Moreover, there was no significant difference in the longitudinal change of this marker between the active and placebo groups. (P=0.25).

Conclusion: This study has shown that serial measurements of the serum concentration of the systemic bone turnover markers CTX and P1NP are not useful when monitoring treatment with rh PTH and do not differentiate between active and placebo treatment.