



AB091. A systematic review and meta-analysis comparing the safety and efficacy of minimally invasive parathyroidectomy with intra operative PTH versus post operative PTH for primary hyperparathyroidism

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Background: Intra-operative parathyroid hormone (ioPTH) assays may increase cure rates in patients undergoing attempted minimally invasive parathyroidectomy (MIP) for primary hyperparathyroidism (PHP) as compared to MIP with post-operative parathyroid hormone (poPTH) measurement only

Methods: A systematic search was performed to identify randomised control trials and observational studies that compared MIP with and without ioPTH. Dichotomous variables were pooled as odds ratios (OR) while continuous variables were compared using weighted mean differences

(WMD). Quality assessment was performed using the Newcastle–Ottawa (NOS) scale.

Results: A total of 12 studies, involving 2,290 patients with PHP, (ioPTH n=1,148, poPTH n=1,132) were eligible for inclusion. The studies had a moderate to high risk of bias. The median NOS was 7 (range, 6–8). MIP patients who had ioPTH monitoring had increased cure rates (cure RR 4.40, 95% CI: 2.12–7.10, $P < 0.0001$). There was an increased need for reoperation in the poPTH group (RR 2.32, 95% CI: 0.19–0.86, $P = 0.02$). There was a trend towards increased operating times in the ioPTH group, however this did not reach statistical significance (WMD 1.88, 95% CI: –0.93–44.17, $P = 0.06$). The use of ioPTH lead to increased rates of bilateral neck exploration (BNE) (RR 2.41, 95% CI: 1.27–9.92, $P = 0.02$).

Conclusions: IoPTH testing improves cure rates for patients with PHP undergoing attempted MIP. Attempted MIP without ioPTH is associated with less BNE with a trend towards shorter operating times but results in lower cure rates and increased risk for re-operation.

Keywords: Primary hyperparathyroidism (PHP); intra-operative parathyroid hormone (ioPTH); post-operative parathyroid hormone (poPTH)

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