



ELECTIVE PARATHYROID SURGERY IN DIALYSIS PATIENTS WITH CHRONIC KIDNEY DISEASE (CKD) AND MORTALITY

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Background

Hyperparathyroidism attributed to CKD contributes significantly to morbidity and mortality, necessitating treatment by medical or surgical means. This retrospective cohort review from a single, tertiary-care academic medical centre aims to determine short and long-term results and durability of parathyroidectomy for the management of tertiary hyperparathyroidism in patients with CKD and renal transplant recipients.

Methods

Patients who had undergone a parathyroidectomy (PTX) between January 2004 and February 2012 were identified from the prospective local database. Primary outcome measures were postoperative morbidity and mortality and normalisation of calcium in transplants. Potentially confounding factors: age, gender, aetiology of renal failure, type of and time on renal replacement therapy and co-morbidity were identified and compared with the non-parathyroidectomy patients (non-PTX).

Results

102 PTX patients (99 undergoing long-term dialysis, 3 with post-transplant hyperparathyroidism) were identified. Mean follow-up was 4.35 years (minimum follow-up, 0.18 years; longest follow-up, 8.0 years). There were no clinically significant complications. Three patients had persistent hyperparathyroidism and required a revision procedure. There were 22 (21.6%) deaths in the PTX group (of which 1 death was as a direct result of surgery) and 696 (49.6%) in the non-PTX group (n = 1405) during the study period (to 23/2/2012). Overall survival was higher in the PTX group as compared to the non-PTX group (Figure 1) with mean survival for the PTX group was 218.5 (21.7) months and 105.3 (4.3) months for the non PTX group which was statistically significant (Hazard ratio 0.301; 95% CI: 0.199-0.457, p<0.001). After propensity matching, no significant imbalance was identified in covariates between groups and overall survival was higher in the PTX group as compared to the non-PTX group (Figure 2) with a statistically significant difference (Hazard ratio 0.248; 95% CI: 0.147-0.419, p<0.001).

Conclusion

In this observational study of UK patients, those who had PTX compared with the non-PTX group had an increased risk of postoperative mortality in the short term. However, in the long term, survival was higher in the PTX group. This difference was not attributed to associated comorbidities after propensity matching was performed.

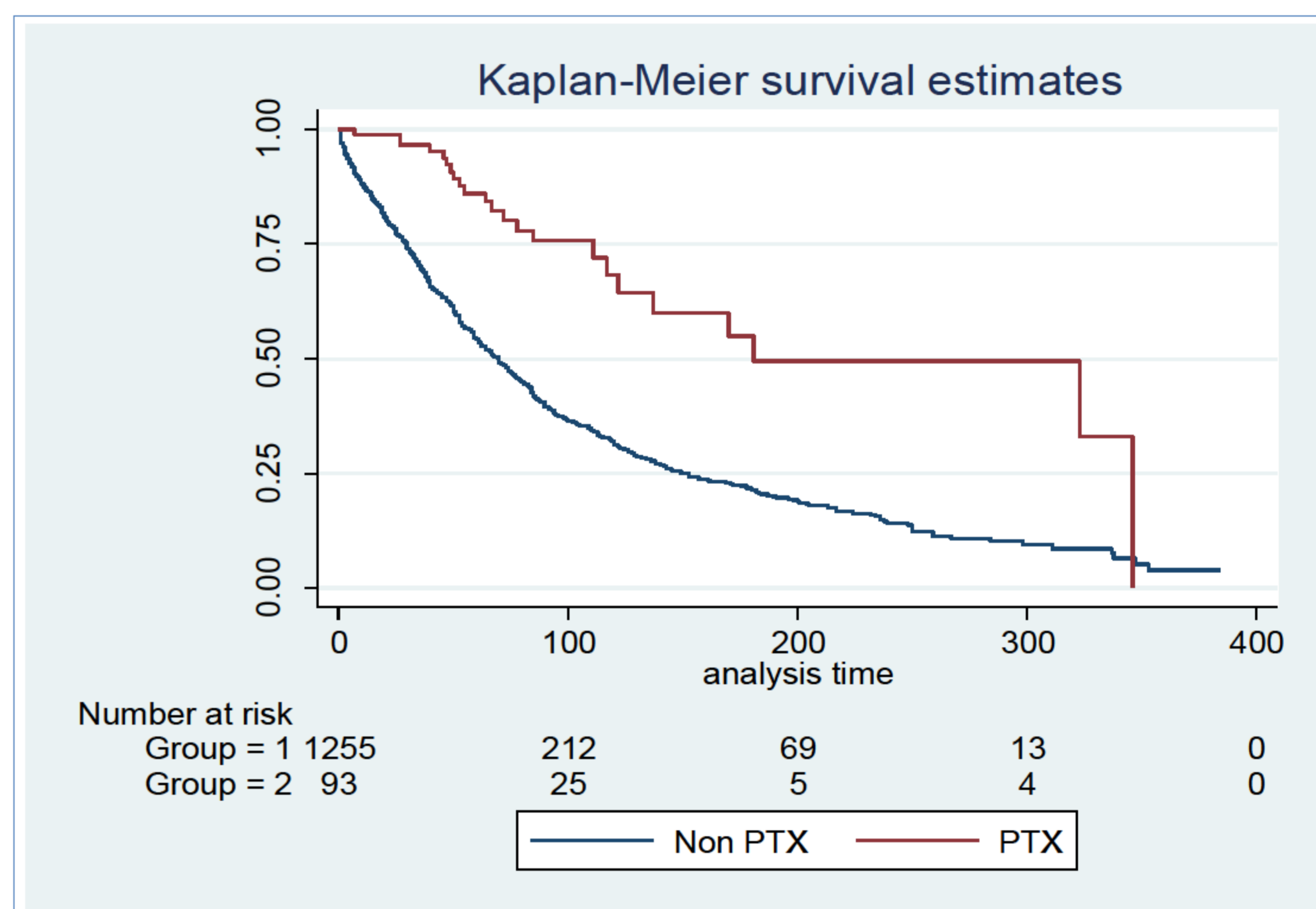


Figure 1: Kaplan –Meier estimates of cumulative survival among patients undergoing parathyroidectomy compared with the non-operative group

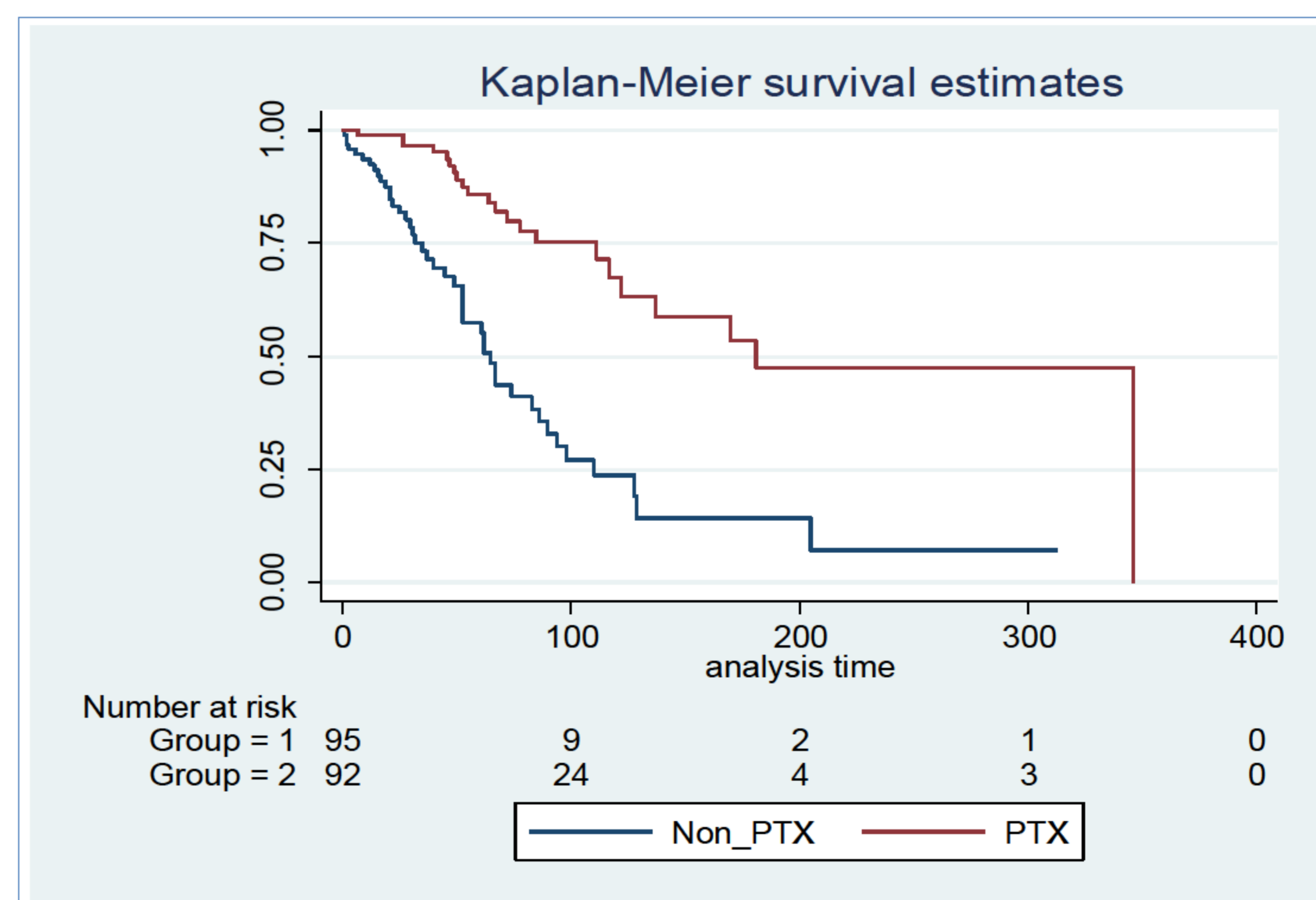


Figure 2: Kaplan –Meier estimates of cumulative survival among propensity matched patients undergoing parathyroidectomy compared with the non-operative group