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## STATISTICAL ANALYSIS PLAN

A Comparative Analysis of Hypocalcemia Incidence in Patients Undergoing Thyroidectomy:  
Ligasure vs Conventional Ligation of vessels by knot tying.

NCT Number: NCT06716632

**Objectives:** To compare the incidence of postoperative hypocalcemia between LigaSure and conventional knot-tying techniques in total thyroidectomy patients.

**Methods:** A randomized controlled trial was conducted at the Surgical Department of Gulab Devi Hospital, Lahore, from July 2024 to January 2025. Seventy-six patients who underwent total thyroidectomy for benign thyroid disease were randomly allocated to the LigaSure (n=38) and conventional knot-tying (n=38) groups. Serum calcium levels were measured preoperatively and at 24/48 hours postoperatively. For statistical analysis, SPSS v24 was used and non-parametric tests like the Mann-Whitney U and chi-square tests were used.

**Results:** Differences found in operative time ( $p=0.106$ ), intraoperative bleeding ( $p=0.867$ ), hospital stay ( $p=0.967$ ), or hypocalcemia incidence (LigaSure: 10.5% vs. Conventional: 7.9%;  $p=0.692$ ) were of no significance.

**Conclusion:** Both techniques demonstrated comparable safety profiles with no statistically significant differences in postoperative outcomes. LigaSure offers a comparable alternative to conventional methods when used by experienced surgeons.