

Ligasure versus Knot and Tying Technique for Intraoperative Hemostasis in Thyroidectomy for Benign Nodular Thyroid Diseases

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Abstract

Ligasure (valley Lab, CO, USA) is a bipolar diathermy system that seals vessels with reduced thermal spread. The device has been used successfully in abdominal surgery and has been introduced as a new method for hemostasis during open thyroidectomy. This study compares the efficacy, safety, and advantages of ligasure when used for different types of thyroidectomy in benign nodular thyroid disease with the conventional clamp and tie technique. We hypothesized that the use of the ligasure would reduce the operating time and blood loss, with no change in rate of complications. This study was conducted on forty patients who underwent thyroid surgery (twenty patients with the conventional clamp and tie technique and the other twenty with ligasure). The inclusion criteria include patients with unilateral and bilateral benign nodular goiter. The mean operating time was significantly shorter in the ligasure group (B) by 19.13 minutes for total thyroidectomy (p value = 0.03) and 11.86 min for subtotal thyroidectomy (p = 0.018). Intraoperative bleeding is lower in ligasure group and the postoperative drain volume is significantly lower in total and hemi-thyroidectomy (p = 0.01 and 0.024 respectively). There was no significance difference between both groups as regard postoperative complications, postoperative pain and hospital stay. We can conclude that the ligasure vessel sealing system is a safe and effective alternative to knot and tying technique in thyroid surgery for benign nodular thyroid disease, that reduce the overall operating time, intraoperative blood loss and postoperative drain volume, however its high cost limits its use in developing countries.