

## Ligasure *versus* Clamp and Tie Technique to Achieve Hemostasis in Thyroidectomy for Benign Diseases

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### Abstract

<b>Background</b>	Occurrence of adverse effects and advantages of the Ligasure diathermy system (or Ligasure vessel sealing system) in thyroidectomy have not been tested in prospective randomized studies comparing its use with that of the time-saving clamp-and-tie technique to ligate and divide thyroid vessels. The effectiveness of Ligasure in achieving vessel division and hemostasis remains dependent on vessel diameter, and the risk of damage to adjacent structures cannot be completely excluded.
<b>Objective</b>	To evaluate the operative time, hospital stay and postoperative complications that achieved by ligasure in versus with clamp-tie technique in subtotal and near total thyroidectomy.
<b>Methods</b>	One hundred patients with benign multinodular goiter underwent subtotal and near total thyroidectomy. Subtotal and near total thyroidectomy was performed in 45 patients using ligasure and in 55 patients using the clamp-and tie technique.
<b>Results</b>	Postoperative complication rate was 2.7-7% overall in ligasure group (group one) vs. 7-31% clamp-and-tie technique (group two) including all temporary postoperative disturbances. There are no permanent complications but statistically, there was difference in their incidence. The mean hospitalization time was 1.4 day in group one vs. 2.5 day in group two. Mean operative time was shorter in the Ligasure group with minimal time difference of 17 minutes.
<b>Conclusion</b>	The use of Ligasure is safe and effective at vessel division and homeostasis than the clamp-and-tie technique, with a statistically significant decrease in mean operative time and hospitalization time. Because of that decrease in operative time and low complication rate, this would allow more patients to undergo thyroidectomy by this technique.
<b>Key words</b>	Ligasure, clamp and tie, thyroidectomy, hemostasis

### Introduction

Thyroidectomies for goitreous patients are known to be more blood spattered operations that requires careful and accurate hemostasis than other operations performed. The conventional technique by clamp and tie of vessels for hemostasis can be done safely but it is a time consuming. Recently, a vessel sealing system was developed and

started to be used in various fields of surgery including urological, gynecological, gastric, and laparoscopic and anorectal procedures<sup>(1-6)</sup>. Hemostasis is extremely important in thyroid surgery to avoid post-operative complications, but it requires meticulous technique, various devices as electrosurgical devices use heat energy to denature proteins and heating of surgical field due to lateral dispersion may easily