

LEARNING CURVE FOR GASLESS ENDOSCOPIC THYROIDECTOMY USING THE TRANS-AXILLARY APPROACH: CUSUM ANALYSIS OF A SINGLE SURGEON'S EXPERIENCE

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Background/Purpose: Endoscopic thyroidectomy and endoscopic parathyroidectomy were first reported in the 1990s. However, there have been few studies reporting on the learning curve of endoscopic thyroidectomy. We used the moving average method and cumulative sum (CUSUM) analysis to assess the learning curve of gasless endoscopic thyroidectomy.

Methods: Three hundred consecutive patients with thyroid carcinoma underwent gasless endoscopic thyroidectomy between September 2008 and February 2012. Patients were divided into two groups according to the type of operation they underwent; group L included hemithyroidectomy patients, and group T included total thyroidectomy patients. The results of surgical outcome were analyzed for changes over the case sequence in each group by using the moving average method and CUSUM analysis.

Results: The mean operation time of group T (131±41 minutes) was longer than that of group L (102 ± 33 minutes; P < 0.05). The moving average method showed that the operation time began to decrease from the 60th case and the 38th case in groups L and T, respectively. However, other factors such as transient hypocalcemia, transient vocal cord palsy and the number of the retrieved lymph nodes had no learning curves based on the moving average method and CUSUM analysis.

Discussion & Conclusion: The learning curve duration of gasless endoscopic thyroidectomy is about 60 cases for unilateral lobectomy and 38 cases for total thyroidectomy according to operation time.