Comparison of robotic versus conventional lateral neck dissection for differentiated thyroid carcinoma

Kyung Tae, MD, Yong Bae Ji, MD, Chang Myeon Song, MD, Seung Hwan Lee, MD, Chul Won Park MD
Department of Otolaryngology – Head and Neck Surgery, College of Medicine, Hanyang University, Seoul, Korea

ABSTRACT

INTRODUCTION

- Metastasis to lateral compartment is not uncommon in differentiated thyroid carcinoma (DTC) and therapeutic lateral neck dissection should be accompanied with total thyroidectomy if it is present.
- In thyroid cancer, Hockey stick incision or low transverse incision are mainly used for lateral neck dissection. However, they leave long visible scar on the neck.
- As in various other surgical fields, there is a trend toward the use of endoscope or surgical robot in head and neck surgery to minimize surgical morbidity and improve cosmesis by avoiding a visible neck scar.
- Since October 2008, we have been performing robotic thyroidectomy for benign tumors and differentiated thyroid carcinomas.
- In advances in robotic thyroidectomy, we have performed robotic lateral neck dissection by a gasless unilateral axillo-breast (GUAB) or axillary (GUA) approach for DTC to avoid long visible scars in the neck.
- The aim of this study is to evaluate technical feasibility and efficacy of robotic lateral neck dissection and compare with conventional neck dissection.

METHODS

We studied 72 patients with DTC who underwent total thyroidectomy with robotic selective neck dissection by GUAB or GUA approach (23 cases), or conventional open neck dissection (49 cases) in unilateral neck between January 2010 and July 2013.

RESULTS

The mean age and body mass index was lower and female was more common in the robotic group compared with the open group (P<0.05). Stage was more advanced in the open group (P<0.05). The mean total operative time was significantly longer in the robotic group (319±65 min) than the conventional group (214±110 min) (P<0.001). The mean number of lymph nodes removed in the lateral compartment was not different between the two groups (24.7±11.3 in the robotic group and 30.9±17.7 in the conventional group, P=0.091). The postoperative complication did not differ between the two groups. Postoperative cosmetic satisfaction was superior in the robotic group than the conventional group (P<0.001).

CONCLUSIONS

Robotic lateral selective neck dissection by GUAB or GUA approach is comparable to conventional lateral neck dissection in selected patients with DTC and provides better postoperative cosmesis than conventional neck dissection.