Introduction

Progress in remote access thyroid surgery has become limited by technological and instrumentation constraints. Implementation of robotic technology (daVinci) was a natural solution to the challenges posed by the confined space of the central compartment. We sought to describe our early experience with this approach.

Methods

Demographic and surgical data were obtained and analyzed with attention to age, gender, pathology, surgical times and complications.

SURGICAL TECHNIQUE

The arm ipsilateral to the thyroid lobe was rotated 180° and adequately protected. A 6-8 cm incision was then made in the anterior axillary line (Figure 1). This incision was used to introduce the endoscope and surgical instruments. A second 1 cm pre-sternal incision was made to introduce additional instrumentation.

A retractor was suspended beneath the sternal head of the SCM and strap muscles. The daVinci Surgical System was docked and the instruments introduced (Figure 3).

An operative space above the pectoralis muscle and between the sternal and clavicular heads of the sternocleidomastoid muscle (SCM) was delineated (Figure 2).

The thyroid lobe was then removed through the axilla with care to preserve the parathyroids and recurrent laryngeal nerve (Figure 4). In cases of total thyroidectomy, the contralateral thyroid lobe was removed by first dividing the superior pole vessels, and then identifying the recurrent laryngeal nerve using a subcapsular dissection. A closed suction drain was placed at the end of the procedure.

Results

Eight consecutive thyroidectomies were accomplished using the daVinci robotic system through an axillary approach (with a small pre-sternal portal). There were 6 females and 2 males, and the mean age was 49.4 ± 12.1 years. Seven were hemithyroidectomies and one was a total thyroidectomy; all had benign pathology.

One obese patient suffered small pulmonary emboli which were treated without sequelae. There were no laryngeal nerve injuries, hypoparathyroidism, or other complications. All procedures were performed without need for conversion to an open surgical procedure.

Conclusion

Robotic axillary thyroidectomy has proven to be feasible in this small series of patients. Further study is justified to confirm the safety and to determine the appropriate role of this procedure in patients with thyroid disease.

References

