Blue Dye Injection Technique for Resection of Nodal Recurrence in Thyroid Cancer

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Abstract

Introduction: The incidence of thyroid cancer in 2017 in the United States was nearly 57,000 patients, and recurrence is relatively frequent. Re-entering a previously operated field is challenging because of scar tissue, and correlating ultrasonography (US) findings with anatomic structures during the operation can be particularly difficult in this setting. Preoperative injection of methylene blue dye into a lymph node of interest under ultrasound guidance is a safe and effective technique that can help the surgeon find the node seen on US. This video is intended as a review of the blue dye injection technique.¹⁻³

Materials and Methods: Informed consent for filming was obtained from two patients. This video presents a composite of their operations. The technique is as follows: (1) The node of interest is identified by US and correlated with preoperative imaging (US or computed tomography). (2) Using a

technique similar to performing fine needle aspiration, 0.1–0.3 cc of 1% methylene blue solution at a 1:4–1:10 dilution is injected under ultrasound guidance into the node. (3) The dissection is begun, facilitated by the target node being stained a blue color. (4) The node is resected and blue dye is visually confirmed in the specimen. Reasonable US interpretation ability is required by the surgeon, or a radiologist's assistance could be employed.

Results: Both patients tolerated the procedure well. The lymph nodes found on preoperative imaging were positively identified and resected using the blue dye technique.

Conclusions: The blue dye injection technique is a simple, safe, and effective method for reducing intraoperative uncertainty when resecting a nodal recurrence of thyroid cancer in a reoperative field.

The authors have no conflicts of interest to report. Informed consent for filming was obtained from both patients.

Runtime of video: 3 mins 38 secs

Keywords: thyroid cancer, technique, lymph node dissection

Cite this video

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