

RADIOACTIVE IODINE-125 SEED LOCALIZATION AS AID IN REOPERATIVE NECK SURGERY

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Introduction: Complex anatomy in the neck can make localization of pathology especially difficult in reoperations for nonpalpable disease. We describe the use of radioactive iodine 125 seed localization (RSL) in 10 patients with metastatic papillary thyroid carcinoma (PTC) as well as 2 patients with recurrent hyperparathyroidism.

Materials and Methods:

U/S + Seed Insertion
(0-3 days preop)



Surgical extraction
Guided by Neoprobe

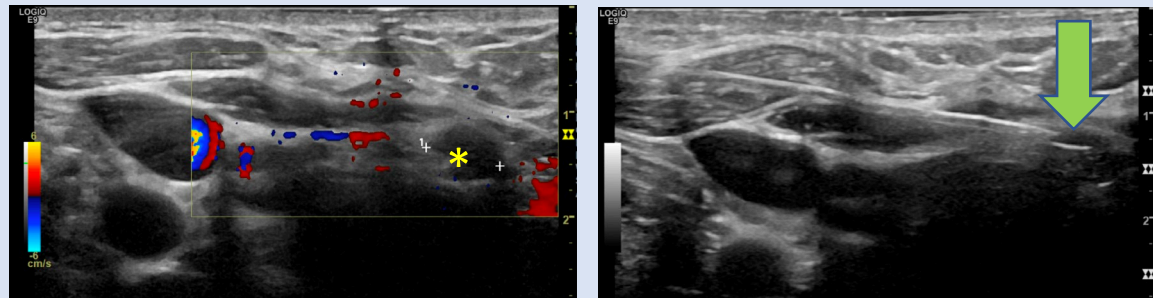


Figure 1: Ultrasound image on L shows target lymph node denoted with a yellow “*”. Image on R shows seed, marked by green arrow and adjacent needle path.

Reoperations in the thyroid group: modified lateral neck dissection (5), redo lateral neck dissection (1), central neck dissection (1), redo central neck dissection (1), completion thyroidectomy + central neck dissection (1), and redo central neck dissection + modified lateral neck dissection (1)

Collected Variables

- Operative time
- Estimated blood loss
- Length of stay
- Number of lymph nodes harvested
- Postoperative complications

Results:

Table 1: Operative variables collected for both metastatic PTC and recurrent hyperparathyroidism cohorts. Mean values are followed by the range of values observed.

Metastatic Papillary Thyroid Carcinoma			Recurrent Hyperparathyroidism		
	Mean Value	Range		Mean Value	Range
Operative Time (min)	146	33-218	Operative Time (min)	125	70-177
EBL (mL)	42	5-200	EBL (mL)	10	-
LOS (days)	0.95	0.03-4	LOS (days)	1	-
LN’s harvested	12.25	0-27**			
Positive LN’s	1.8	0-6			
Incision length (cm)	6.3	4-9	Incision length (cm)	4.5	4-5
Complications			Complications		
			RLN palsy	0	
			Hematoma	0	

***NO complications were experienced with seed insertion**

**** 1 target was positive for fibromuscular tissue invaded by PTC (No LN)**

Conclusion:

Radioactive iodine 125 seeds facilitate safe and effective localization of endocrine pathology within reoperative surgical fields.