

Alternative management of benign thyroid cysts with ethanol sclerothrapy



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Introduction

- Thyroid nodules are a common finding with 50% prevalence for nodules >1cm with no history of thyroid disease
- **90% of thyroid nodules are clinically insignificant benign lesions**
- ATA Guidelines focus on several factors to provide recommendations on treatment:
 - **TIRADS** Radiological Grading Score
 - **Bethesda** FNA cytology diagnostic categories

Neither focuses on management of **benign symptomatic nodules**

- Some studies suggest surgery vs radiofrequency ablation for management
- BOTH require an OR

Objective:

- Describe alternative minimally invasive treatment for management of benign thyroid cysts, defined by TR1 utilizing ethanol sclerothrapy

Results

Patient 1:

- 41yo F with a 6 month history of a TR1 thyroid nodule, 2.5x3x4cm
- Aspirated 3 times in clinic with re-accumulation within 48 hours to the same dimension
- Significant swallowing discomfort associated with it, as well as visible swelling
- Offered Hemithyroidectomy vs sclerothrapy and elected for sclerothrapy
- Swallowing discomfort for 48 hours
- No re-accumulation at 6 months

Patient 2:

- 43yo F with a 3 month history of a TR1 thyroid nodule, 4x3.5x5cm
- Aspirated twice unsuccessfully in clinic
- Offered Hemithyroidectomy vs sclerothrapy and elected for sclerothrapy
- No significant swallowing discomfort, some inebriation
- No re-accumulation at 3 months

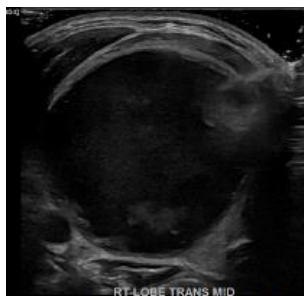


Figure 2: Transverse US image of a largely purely cystic nodule

Methods

- Ultrasound read by a radiologist confirming a TR1 nodule
- Cyst was aspirated in clinic without difficulty, confirming that surface landmarks adequate for sclerothrapy
- In the hospital Ambulatory Care Unit, Lidocaine injected into skin overlying the cyst
- 16G cannula inserted into cyst and cyst contents partially aspirated
- While cannula remained in place, 100% ethanol instilled into cyst, and cyst partially aspirated again
- This was repeated until no further colour to the aspirate, cyst was then fully aspirated
- Patient was observed for 30 minutes and discharged, advised not to drive or operate machinery



Figure 1: The equipment set up used for cyst sclerothrapy

Discussion

- Both patients were females in 40s with TR1 purely cystic nodules
- Both had quite large nodules causing compressive symptoms as well as cosmetic concerns
- Landmark based ethanol sclerothrapy was administered as above with minimal discomfort
- Better outcomes than serial aspiration
- Limitations:
 - Small sample size
 - Limited follow-up and long-term assessment

Conclusion

- Ethanol sclerothrapy is a viable option for benign TR1 cystic thyroid nodules
- Avoid OR and associated risks with minimal discomfort and good early outcomes with this methodology
- Future directions:
 - Larger case series to evaluate effect of using ethanol sclerothrapy in this patient population

References:

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2. Zamora EA, Khare S, Cassaro S. Thyroid nodule. InStatPearls [Internet] 2022 Sep 5. StatPearls Publishing.