



8TH - 10TH NOVEMBER, 2024 | GRAND HYATT MUMBAI

Registration number: 619

Title of the presentation: **One-Step Ethanol Ablation of Viscous Cystic Thyroid Nodules**

Authors and Institute:

Author: Dr.Sreenivas Yella

Co-author: Dr.Saikanth deepalam

Institute: St John's Medical college



Introduction/ Review of Literature:

- **Prevalence of Benign Thyroid Nodules:**

- Common among adults; increases with age.

- 15-25% of solitary thyroid nodules are cystic or predominantly cystic.

- **Aspiration:**

- Reduces pressure-related symptoms and cosmetic issues.

- High recurrence** rates, especially in larger nodules.

- **Viscous Cystic Nodules:**

- Cannot be aspirated with an 18-gauge needle.

- Accounts for ~30% of cystic thyroid nodules.

- Traditional management (ethanol ablation) is **less effective** for these nodules.

- **Challenges with Traditional Methods:**

- Ethanol ablation depends on fluid aspiration and even diffusion, which is hindered in viscous cysts.

- Two-step ethanol ablation** (multiple sessions) has limitations.

- Need for a **one-step technique** to improve efficacy.

- **New Approach:**

- One-step ethanol ablation** technique designed to effectively manage viscous cystic thyroid nodules.

- In 2024 from Jan 1st to November , 30 patient underwent this procedure

Aims:

- Evaluate the **efficacy** and **safety** of **one-step ethanol ablation** in managing **viscous cystic thyroid nodules**

Methodology

- **Study Population:**

30 euthyroid patients with benign, single compressive viscous cystic thyroid nodules (cystic portion > 90%).

- **Inclusion Criteria:**

Viscous cystic nodules that **cannot be aspirated** with an 18-gauge needle.

- **Procedure:**

- **Aspiration:** Thick content removed using either:

- **16-gauge needle** (n = 8) or

- **8.5-French pigtail catheter** (n = 1) with suction pump.

- **Ethanol Injection:** 99% sterile ethanol administered into the nodule.

- **Duration:** 10 minutes of ethanol retention before complete withdrawal.

- **Additional Treatment:** If cystic portion > 1 mL, further treatment was prescribed.

- **Follow-up:**

- **Sonography:** 1 and 6 months after treatment.

- **Evaluated:**

- Nodule volume

- Symptom score (visual analog scale: 0–10)

- Cosmetic grade (1–4)

- Complications

Results:

- **Initial Nodule Volume:**
Mean volume: 24.4 ± 20.3 mL (range: 4.5–57.4 mL)
- **Ethanol Injection:**
Mean ethanol injected: 11.8 ± 10.1 mL (range: 2–27 mL)
- **Procedure Time:**
Mean total procedure time: 27.8 ± 10.4 minutes (range: 15–45 minutes)
- **Nodule Volume Reduction:**
1 month: 7.2 ± 9.4 mL (78.4% reduction, $p = 0.008$)
6 months: 2.1 ± 3.8 mL (93.6% reduction, $p = 0.008$)
- **Symptom Improvement:**
Mean symptom score: $3.2 \pm 1.5 \rightarrow 0.4 \pm 1.0$ ($p < 0.05$)
- **Cosmetic Improvement:**
Mean cosmetic grade: $3.9 \pm 0.3 \rightarrow 1.3 \pm 0.7$ ($p < 0.05$)
- **Complications:**
No major complications reported

Representative images:

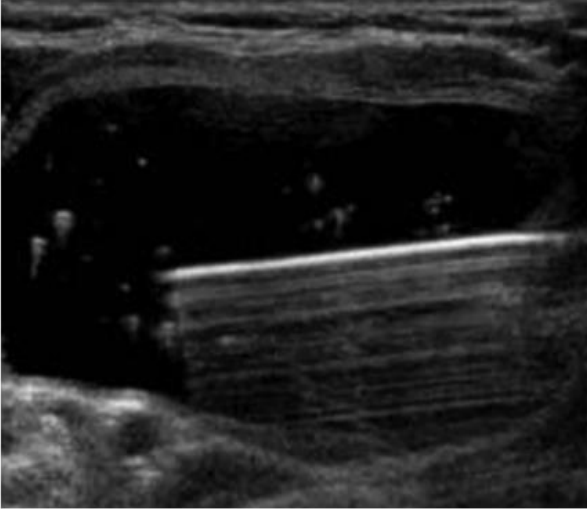


Fig. 1A —43-year-old woman with viscous cystic thyroid nodule. Axial sonogram of neck shows 16-gauge needle inserted into huge viscous cystic thyroid nodule.

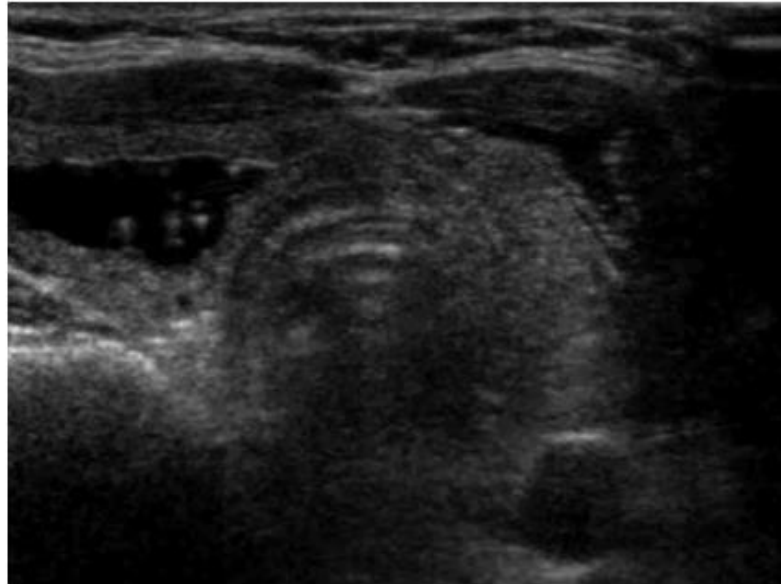


Fig. 1B —43-year-old woman with viscous cystic thyroid nodule. Axial sonogram of neck after aspiration shows volume of viscous cystic thyroid nodule has decreased significantly.

Conclusion:

- One-Step Ethanol Ablation:**

An **effective** and **safe** method for managing **viscous cystic thyroid nodules**.

- Key Findings:**

Significant reduction in **nodule volume** (93.6% at 6 months).

Symptom improvement and **cosmetic benefits** for patients.

No **major complications** encountered.

- Clinical Implication:**

Provides a **single-session** alternative to traditional multi-step treatments.

References:

1. Mazzaferri EL. Management of a solitary thyroid nodule. *N Engl J Med* 1993; 328:553-559

[Crossref](#) [PubMed](#) [Google Scholar](#)

2. Del Prete S, Caraglia M, Russo D, et al. Percutaneous ethanol injection efficacy in the treatment of large symptomatic thyroid cystic nodules: ten-year follow-up of a large series. *Thyroid* 2002; 12:815-821

[Crossref](#) [PubMed](#) [Google Scholar](#)

3. Bennedbaek FN, Hegedus L. Treatment of recurrent thyroid cysts with ethanol: a randomized double-blind controlled trial. *J Clin Endocrinol Metab* 2003; 88:5773-5777

[Go to Citation](#) [Crossref](#) [PubMed](#) [Google Scholar](#)

4.

Cho YS, Lee HK, Ahn IM, et al. Sonographically guided ethanol sclerotherapy for benign thyroid cysts: results in 22 patients. *AJR* 2000; 174:213-216