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Interfascial Hydrodissection for Persistent Dysphagia and Voice Change after Throidectomy

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Purpose

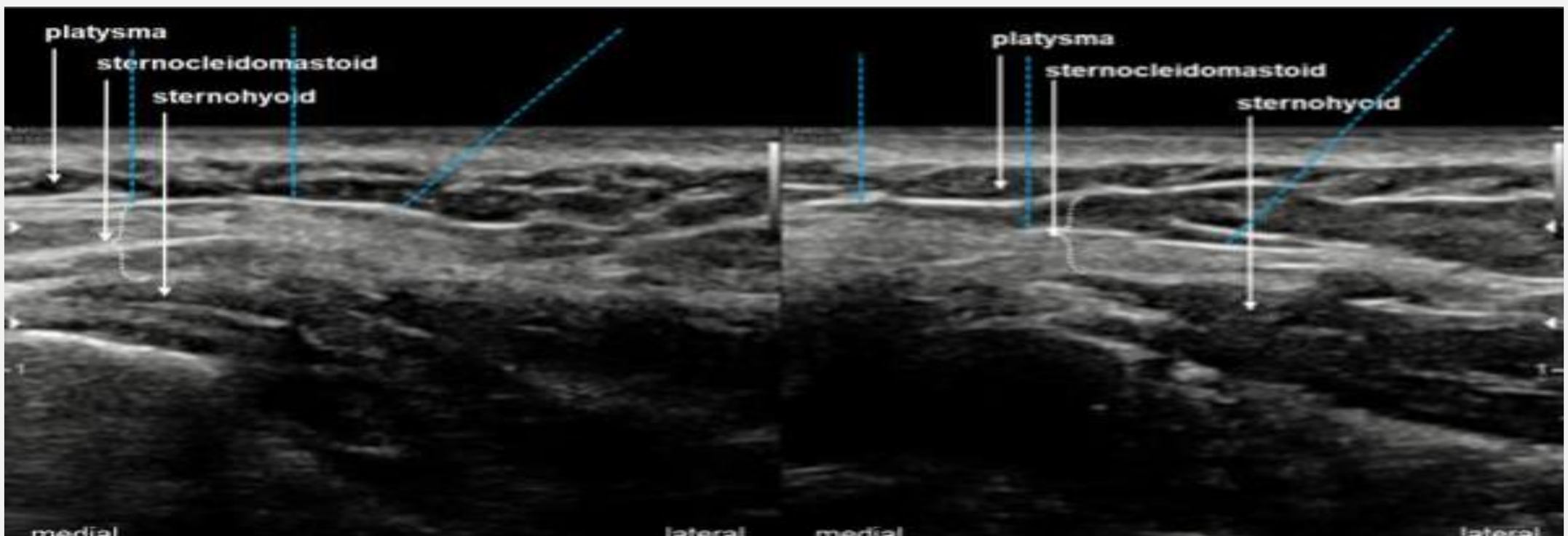
To report the clinical course and therapeutic outcome of ultrasound-guided interfascial hydrodissection in a patient with chronic dysphagia and voice change 10 years after thyroidectomy, presumed to be related to postoperative anterior neck adhesion.

Material and Methods

- A 45-year-old woman was referred in 2023 for evaluation of persistent dysphagia and voice change following radical Rt. total thyroidectomy with central compartment node dissection in 2013. Pathology showed papillary microcarcinoma without lymph node invasion. She underwent scar revision surgery in 2018.
- Swallowing-related symptoms included anterior neck discomfort, increased swallowing effort, pharyngeal residue sensation, and prolonged mealtime of approximately 40 minutes. Voice-related symptoms included husky voice quality, difficulty producing high-pitched sounds, and vocal fatigue after speaking for more than 20 minutes. After surgery, she was able to produce pitches only up to G4 (392 Hz) and had changed from soprano to alto.
- Visual and tactile examination revealed reduced elevation of the superficial anterior neck during swallowing. VFSS demonstrated a normal oral phase and an intact swallowing reflex. Reduced laryngeal elevation with vallecular residue was observed in the pharyngeal phase. The residue cleared with double swallowing. No penetration or aspiration was noted.
- Ultrasonography revealed fibrotic changes of the sternocleidomastoid muscle and restricted dynamic dissociation between the platysma and sternocleidomastoid muscle, suggesting postoperative adhesion limiting soft tissue mobility. Ultrasound-guided interfascial hydrodissection was performed bilaterally between the platysma and sternocleidomastoid muscles. For each side, 5 mL of normal saline mixed with 5 mg triamcinolone was injected at three interfascial points using a 26-gauge needle under real-time visualization to restore gliding between tissue layers.

Results

Figure 1. Ultrasound-guided interfascial hydrodissection



Blue dotted lines indicate each injection site for interfascial hydrodissection between the platysma and the sternocleidomastoid muscle on each side.

- No adverse events occurred. Immediately after the procedure, improved superficial neck elevation during swallowing was visually observed. The patient reported more than 20% reduction in perceived swallowing effort.
- At 1-month follow-up, mealtime shortened and husky voice quality partially improved. She was able to speak for more than 30 minutes without vocal fatigue. She also regained the ability to produce pitches up to B4 (494 Hz), allowing partial recovery of her previous vocal range.

Table 1. Swallowing and voice function before and after interfascial hydrodissection

Functions	Sub-item	Before	After
Swallowing	Effortful swallowing	prominent	20% decreased
	Residual sense	Prominent	decreased
	Meal time	40 min	20-30 min
Voice	Highest pitch	G4 (Sol, ~392Hz)	B4 (Si, ~494Hz)
	Voice quality	Husky voice	Less Husky
	Speech fatigue	20 min	30 min

Conclusion

Ultrasound-guided interfascial hydrodissection may be a safe and potentially effective therapeutic option for chronic dysphagia and voice change associated with postoperative anterior neck adhesion after thyroidectomy. Restoration of interfascial mobility may contribute to improved laryngeal elevation and vocal performance in selected patients with long-standing symptoms.