

A Case of Brachial Plexopathy after Transaxillary Endoscopic Thyroid Lobectomy

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BACKGROUND

Transaxillary endoscopic thyroidectomy has been widely performed and is known to be an effective and safe procedure. However, some complications have been reported with this approach. We present a case of brachio-plexopathy that is reported very rarely after the operation.

CASE REPORT

A 26-year-old female patient was diagnosed with right papillary thyroid cancer on examination of a thyroid mass, and admitted to department of general surgery. Preoperative Computed Tomography(CT) showed about 7 mm sized hypodense nodule in the right thyroid gland but there was no extrathyroidal extension. She had endoscopic right thyroid lobectomy with central lymph node dissection. After the surgery, she complained of weakness, hypoesthesia and tingling sensation in her right upper extremity.

On physical examination, right shoulder girdle and elbow muscle strength were measured as grade 1 to 2 and distal power was checked as grade 3 by Medical Research Council scale. Hypesthesia and tingling sensation were observed from the lateral side of her right upper arm, forearm and hand. Magnetic resonance imaging(MRI) of the brachial plexus showed diffuse edema at the cord level of the right side. (Fig 1., Fig 2.).

Electromyography(EMG) was performed 2 weeks after the symptom onset. Both upper limb sensory nerve conduction studies and motor nerve conduction studies were unremarkable. However, abnormal spontaneous activities (positive sharp waves) were observed in right deltoid, biceps, brachioradialis and extensor carpi radialis muscles in needle electromyography (Table 1.). The EMG results were suggestive of right brachial plexopathy involving posterior and lateral cords considering MRI findings.

Table 1. Needle electromyography 2 weeks after symptom onset

Side	Muscle	Spontaneous activity			MUAP			Recruitment	
		IA	Fib.	PSW	Amplitude	Duration	Poly.		
Both.	CPS	Normal	None	None			NA		IA, insertional activity;
Rt.	RM	Normal	None	None	Normal	Normal	Normal	Reduced*	Fib., fibrillation potential;
	SA	Normal	None	None	Normal	Normal	Normal	Reduced*	PSW, positive sharp wave;
	SSP	Normal	None	None	Normal	Normal	Normal	Reduced*	MUAP, motor unit action potential;
	ISP	Normal	None	None	Normal	Normal	Normal	Reduced*	Poly., polyphasic motor unit action potentials;
	DEL	Normal	None	+++	Normal	Normal	Normal	Discrete*	major; SA, Serratus anterior;
	BB	Normal	None	+++	Normal	Normal	Normal	Discrete*	ISP, infraspinatus;
	BCR	Normal	None	+	Normal	Normal	Normal	Discrete*	SSP, supraspinatus;
	ECR	Normal	None	++	Normal	Normal	Normal	Reduced*	DEL, Deltoid; BB, biceps
	TB	Normal	None	None	Normal	Normal	Normal	Reduced*	brachii; BCR, Brachioradialis;
	FCR	Normal	None	None	Normal	Normal	Normal	Reduced*	ECR, Extensor carpi radialis;
	EDC	Normal	None	None	Normal	Normal	Normal	Reduced*	TB, triceps brachii;
	FCU	Normal	None	None	Normal	Normal	Normal	Reduced*	FCR, Flexor carpi radialis;
	FDP 4,5	Normal	None	None	Normal	Normal	Normal	Reduced*	EDC, extensor digitorum
	FDI	Normal	None	None	Normal	Normal	Normal	Reduced*	communis; FCU, flexor carpi
APB	Normal	None	None	Normal	Normal	Normal	Reduced*	ulnaris; FDP 4,5, Flexor	

*Indicates abnormal data based on our reference values

Figure 1. Coronal T2-weighted MRI of the brachial plexus

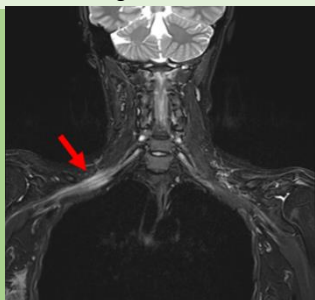
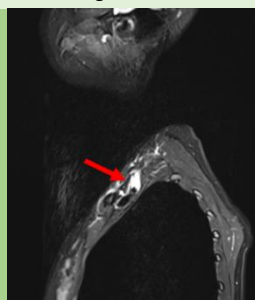


Figure 2. Sagittal T2-weighted MRI of the brachial plexus



CONCLUSION

This is a rare case of brachio-plexopathy after endoscopic transaxillary thyroidectomy. Since exact cause of the symptoms after the surgery has not been clarified, follow up of physical examination and electromyography are considered necessary.