

Brachial plexopathy after deep sleep

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Introduction

Lying on the side while falling asleep deeply after drinking or taking a sleeping pill can cause compressive neuropathy. We report a case of medial cord plexopathy after deep sleep.

Case presentation

A 70 - year - old man visited our clinic with symptoms of numbness and tingling sensation at the medial side of the left upper extremity ever since 10 days ago. On the day before the symptom started, he took a sleeping pill and slept on a lateral decubitus position. When the patient woke up, he felt pain and numbness on the left arm. His past medical history was unremarkable except hypertension. On physical examination, bruise was found on the medial side of the left arm 5 cm below the axilla (Figure 1). Hoffman sign was negative and deep tendon reflexes of biceps and triceps jerk were normoactive. Motor examination showed the left finger flexor and abductor weakness (3/5 MRC scale). Sensory examination showed hypoesthesia and paresthesia in the medial side of the left arm and the palmar side of left hand in the light touch and pin prick test. First electrodiagnostic study (EDx) was performed 12 days after the initial visit. The amplitudes of sensory nerve action potentials (SNAPs) of the left median and ulnar were decreased. Medial antebrachial cutaneous nerve was unobtainable in both sides. F-responses were unobtainable with the left median nerve stimulation and prolonged with the left ulnar nerve stimulation. The needle electromyography in the first EDx study is shown in Figure 2. Second EDx study was performed 47days after the initial visit. The SNAP amplitudes of median and ulnar nerves were decreased even more. However, F response of median nerve was normalized. Based on the above findings, we concluded that the EDx findings are compatible with left brachial plexopathy at the medial cord lesion. Plain radiographs of the left shoulder and elbow were unremarkable. Ultrasonography showed no space occupying lesions along the peripheral nerves and brachial plexus. However, diffuse swelling of nerve fascicles of median and ulnar nerves distal to brachial plexus were noted (Figure 3). On the initial visit, oral prednisolone and vitamin B complex for supplementary treatment were prescribed. Analgesics including NSAIDs, acetaminophen/tramadol and pregabalin were also prescribed to manage severe pain. He was instructed to perform finger flex/abduction strengthening exercise. Six months after the initial visit, motor function of finger flexor and abductor (4/5) and paresthesia (70%) were improved.

Discussion

The mechanism of the injury might be compression and traction of brachial plexus. In addition, based on the evidence of compression and EDx findings (especially decreased median SNAP), we thought that combined peripheral neuropathy around the

compression site mainly involving sensory fiber of median, ulnar or medial antebrachial nerve may be possible. Conservative management was sufficient to treat brachial plexopathy.



fig1. Bruise on the medial side of the left arm 5 cm below the axilla

	Muscle	Insert. act.	Spont. act. (F&P)	Motor unit action potentials			
				Phase	Amplitude	Duration	Recruitment
Lt.	Biceps brachii	N	-	N	N	N	F
	Pronator teres	N	-	N	N	N	F
	Triceps brachii	N	-	N	N	N	F
	Extensor indicis proprius	N	-	N	N	N	F
	Flexor carpi ulnaris	N	-	N	N	N	R
	Abductor digiti minimi	N	-	N	N	N	R
	1 st dorsal interosseus		+	N	N	N	R
	Abductor pollicis brevis		+	N	N	N	R
Lt.	C6/7 PVMs	N	-				
	C7/T1 PVMs	N	-				

fig2. Needle electromyography in the first electrodiagnostic study

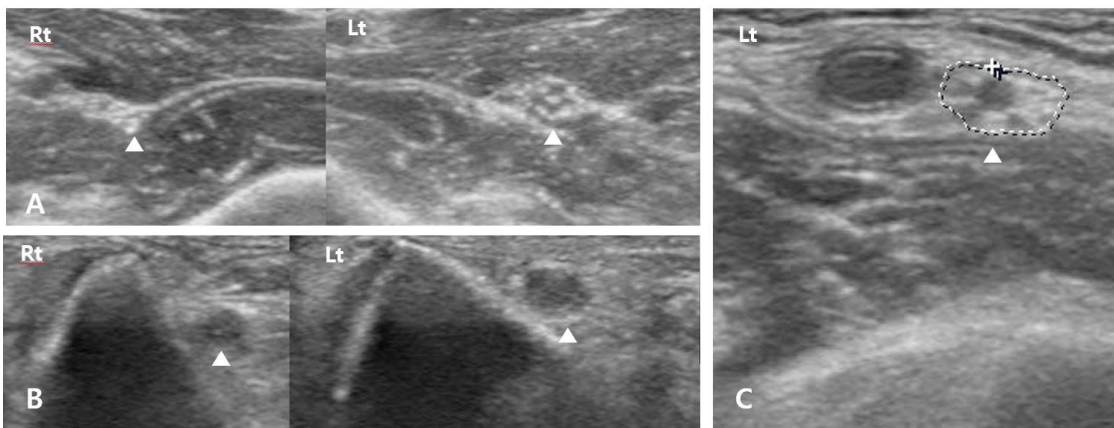


fig3. Enlarged nerve fascicles of left median nerve at the mid forearm level (A), ulnar nerve at the elbow level (B) and median nerve at the mid arm level (C)