

Acute brachial diparesis

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DESCRIPTION

A 66-year-old man was brought to the hospital after an episode of binge drinking, in which he was found in an unusual position (both arms trapped between the toilet and the sink). During

extraction, his son used different manoeuvres, including traction, abduction and flexion of the arms. Muscle strength was reduced, and sensitivity and myotatic reflexes were altered in the upper limbs (table 1).

Table 1 Neurological findings in the upper limbs at diagnosis, and following rehabilitation

	Right	Left	Right	Left
	At diagnosis		Following rehabilitation (6 months)	
Motor examination				
Shoulder abduction	1	3	2	4
Shoulder flexion	0	3	2	4
Elbow extension	0	2	2	4
Elbow flexion	0	2	2	4
Wrist extension	0	2	2	4
Wrist flexion	0	1	2	4
Finger extension	0	1	1	4
Finger flexion	0	1	1	4
<i>Absence of clinical limitation of scapula elevation and rotation/ no scapula alata</i>				
Sensory examination				
Pain and touch sense	Absent (C5–T1)	Reduced (C6–C8)	Reduced* (C5–T1)	Reduced (C6–C8)
Position and vibratory sense	Absent	Normal	Reduced	Normal
Myotatic reflexes	Absent	Absent	Reduced	Reduced

*With areas of dysesthesia.

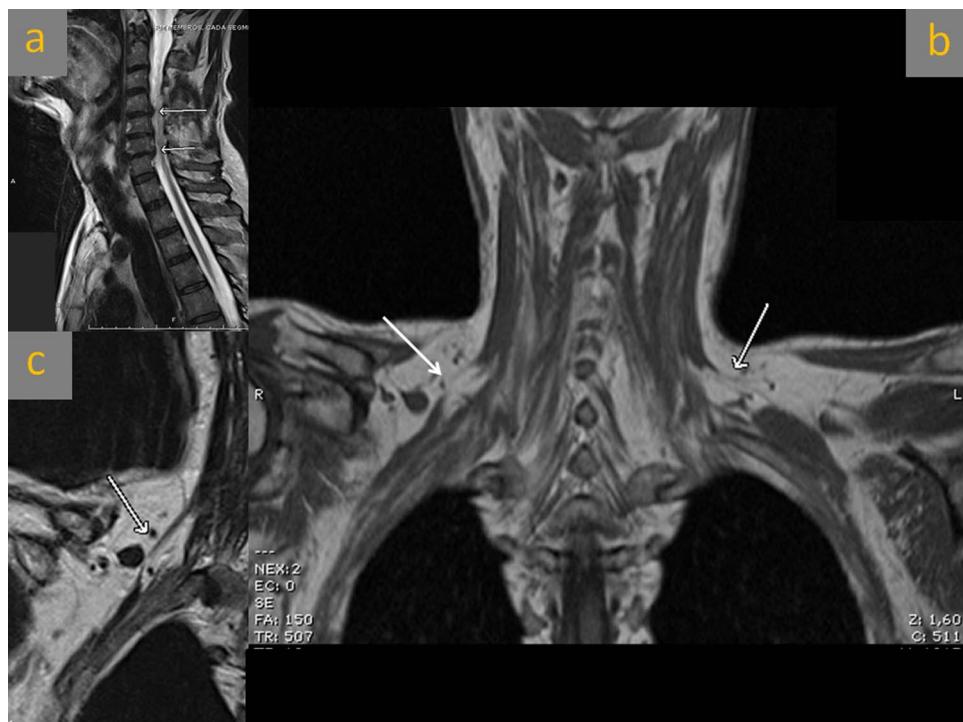


Figure 1 (A) Cervical MRI showing moderate degenerative changes, moulding of the subarachnoid space at C5–C6 and C6–C7 (arrows), without any sign of spinal cord lesion; (B) Short tau inversion recovery imaging showing bilateral hyperintense, enlarged trunks (arrows) compatible with postganglionic brachial plexus lesion (axonotmesis or neurotmesis); (C) Amplified image of plexus injury (right side).

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The lower limb examination was normal. Although cervical MRI showed only moderate degenerative disease (figure 1A), the clinical manifestations were attributed to spinal shock/acute traumatic central cord syndrome. No improvement was observed after 2 weeks, raising suspicions of bilateral brachial plexopathy (BBP), shown in the plexus MRI (figure 1B,C). The presence 4 weeks later on electrodiagnostic testing (in different nerves or muscles) of fibrillation; positive sharp waves; decrease/absent compound muscle action potential amplitude; decrease/absent sensory nerve action potential; and nerve conduction blocks, confirmed the diagnosis. Partial recovery occurred with intensive rehabilitation (table 1). BBP is extremely rare in adults. The main causes are postoperative paralysis, and severe traumatic accidents.^{1 2} In our case, the history, the bilateralism and the absence of symptoms such as pain, paresthesias, made these diagnosis very unlikely. In an appropriate context, brachial plexus MRI is sensitive, and highly specific for the diagnosis of traumatic brachial lesions.^{1 2} However, electromyography remains as the diagnostic gold standard.¹ Restoring of strength through collateral reinnervation over time is a possibility. Surgical intervention depends on the lesion severity and degree of recovery during the first 6 months.³

Learning points

- Brachial plexus lesions should be considered in any differential diagnosis of limb paresis.
- In rare cases, acute bilateral brachial plexopathy occurs outside the usual clinical settings, such as severe traumatic accidents or, in postoperative paralysis.
- Intensive rehabilitation potentially improves functional outcome in cases of brachial plexopathy.

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Competing interests None.

Patient consent Obtained.

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