

Brown-Séquard typed Paraplegia due to Spinal Cord Infarction after Bronchial Artery Embolization

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Introduction

Bronchial artery embolization (BAE) is a well-established minimally invasive procedure in the management of massive hemoptysis. There are significant procedural complications including technical failure with continued hemoptysis, cerebral and spinal cord infarctions. We report a rare case of paraplegia mimicking Brown-Sequard syndrome due to spinal cord infarction following BAE.

Case report

A 52-year-old man with previous Tuberculosis was admitted with recurrent hemoptysis. Thoracic computed tomography (CT) showed consolidative lesion in LUL with atelectasis, and he underwent BAE. Selective angiography showed that left upper intercostal artery, left mid intercostal artery, left supraclavicular artery, internal mammary artery, subscapular artery were hypertrophied along with abnormal parenchymal stain and systemic pulmonary shunt. These abnormal arteries were embolized with microcoils (Fig. 1). Following BAE, he complained of weakness of the left legs. On physical examination, his left leg was motor grade 4 strength. But The next morning, the patient complained chest pain and after chest pain was subsided, his left leg was flaccid with grade 0/5 strength. DTR absent in both lower limbs, decreased light touch sensory loss below T2 level, pain and temperature sensations were decreased in the both legs below T4 level. An magnetic resonance imaging (MRI) of the brain was normal. And MRI of the whole spine revealed abnormal T2 high signal at the anterior spinal cord at T1-T2 levels (Fig. 2). He was started on intravenous methylprednisolone. After 2 weeks, he was transferred to department of Rehabilitation medicine. At that time, motor grade 0/5 strength in the left leg and motor grade 4/5 strength in the right leg. Pain sensations were decreased in the both leg but right more severe and light touch and temperature sense was decreased in the both leg, below T4 level. Somatosensory Evoked Potentials (SSEP) Study has done, left Posterior Tibial nerve latency was delayed. And, MEP of left Tibialis anterior muscles is not evoked (Table 1). Patient was managed symptomatically and all the rehabilitation modalities. After three months, it revealed improvement in left leg motor strength (Grade 3) and in right leg motor strength (Grade 5). And follow up Posterior Tibial nerve SSEP, latency was much improved. And follow up MEP was unchanged. He could walk with mono-cane.

Conclusion

BAE is an important treatment for hemoptysis. Spinal cord infarction is a rare complications, Results from embolization of the anterior spinal artery. We experienced a

rare case of spinal cord infarction after BAE. Because this case is quite similar to Brown-Séquard syndrome due to spinal cord infarction after BAE, we report it. And we wish to emphasize the importance of informing the patients about the potential complications prior to performing BAE.

Table 1. Somatosensory Evoked Potentials (SSEP) Study and Motor Evoked Potentials (MEP) Study.

Somatosensory Evoked Potentials (SSEP) Study								
Nerve	Right side				Left side			
	2018.03.31		2018.05.29		2018.03.31		2018.05.29	
	Latency (ms)	Amplitude (mV/uV)	Latency (ms)	Amplitude (mV/uV)	Latency (ms)	Amplitude (mV/uV)	Latency (ms)	Amplitude (mV/uV)
Post. tibia	42.7	0.9	39.9	1.4	45.8*	0.7	42.7	0.9

Motor Evoked Potentials (MEP)								
TA	Initial (2018.04.05)				F/u (2018.06.16)			
Motor Evoked potential (130% RMT)	Rt.		Lt.		Rt.		Lt.	
	Latency (ms)	Amplitude (mV/uV)	Latency (ms)	Amplitude (mV/uV)	Latency (ms)	Amplitude (mV/uV)	Latency (ms)	Amplitude (mV/uV)
	34.0	1093	Not evoked*		32.0	1553	Not evoked*	
CMCT	7.5		Not evoked*		9.3		Not evoked*	

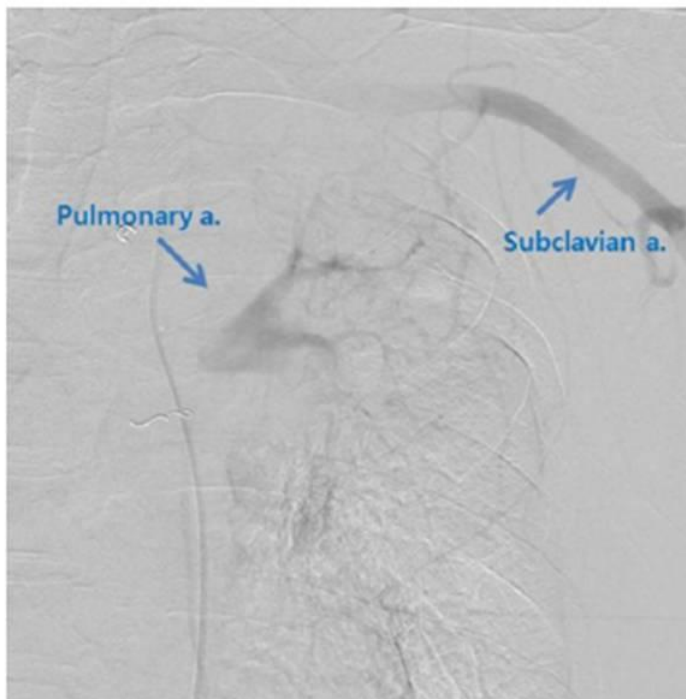


Fig. 1. Catheter angiography showing systemic-pulmonary arterial shunt.

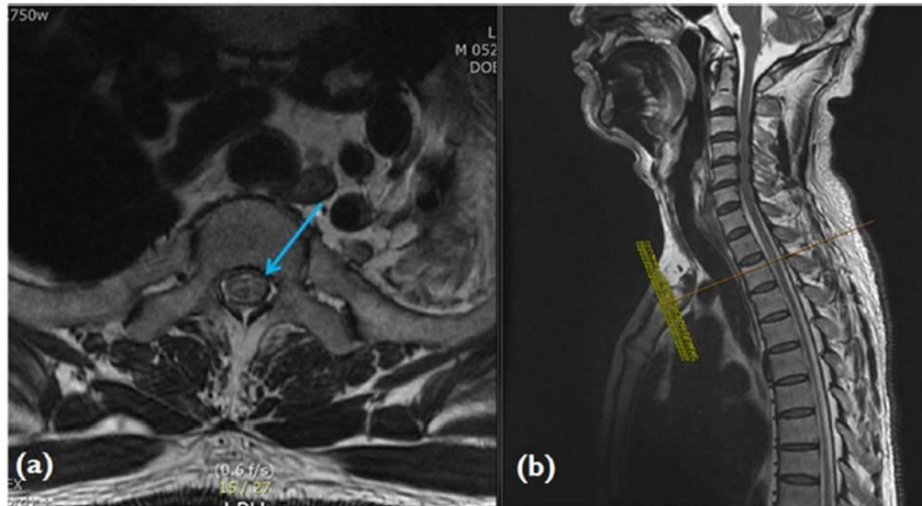


Fig. 2. Whole spine MRI revealed abnormal T2 high signal at the anterior spinal cord at T1-T2 levels. (a) T2 high-resolution axial weighted image at T2 level (b) T2 high-resolution sagittal weighted image at T2 level