

: 1 1

2 . . . . .

B12

1

T2

B12

1

(subacute combined degeneration  
of the spine, SCD) B12  
(posterior and lateral columns)  
(axon)

B12

(gastrectomy)

T2

MRI

( MRI)

(ankle clonus)  
(dysmetria)

(median and posterior tibial nerve sensory evoked  
potentials) (central conduction pathway)  
(n-  
erve conduction study)

44

가

7

15

(megaloblastic anemia)  
B12 20pg/ml( : 250-1100),  
folate 18.7ng/ml( :0.9-15.6)

10

7

가

- 2

MRI(1.5 Tesla)

T2

6

가 2

T1

가

100/70mmHg

(Fig. 1, 2).

M-

R1

B12 1000 µg 2  
1000 µg

2

1

1999 11 2 2000 3 27

2 가 B12 (ataxia) 8000pg/ml MRI T2 MRI (Fig. 3).

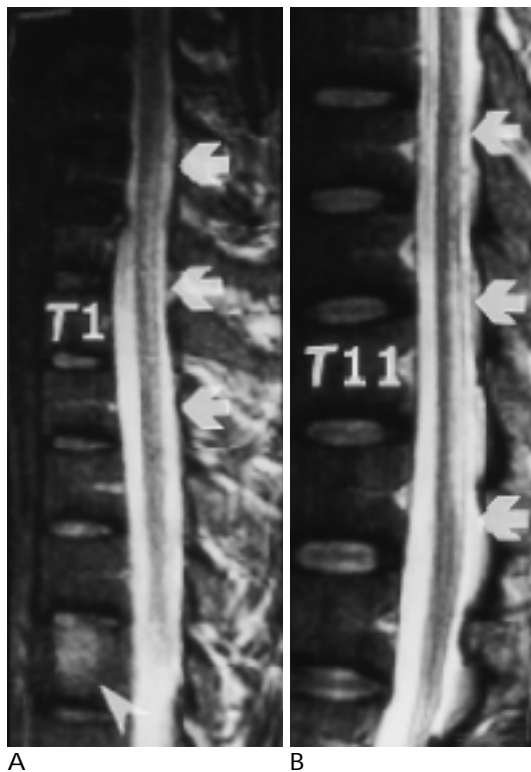


Fig. 1. Sagittal T2-weighted spin-echo MR image (TR/TE 3909/112) of the cervico-thoracic spinal cord demonstrates abnormal high signal intensity(arrows) at the level of C6-T2 (A) and T9-T12 (B). Note high signal intensity of hemangioma in the T5 vertebral body (arrowhead).

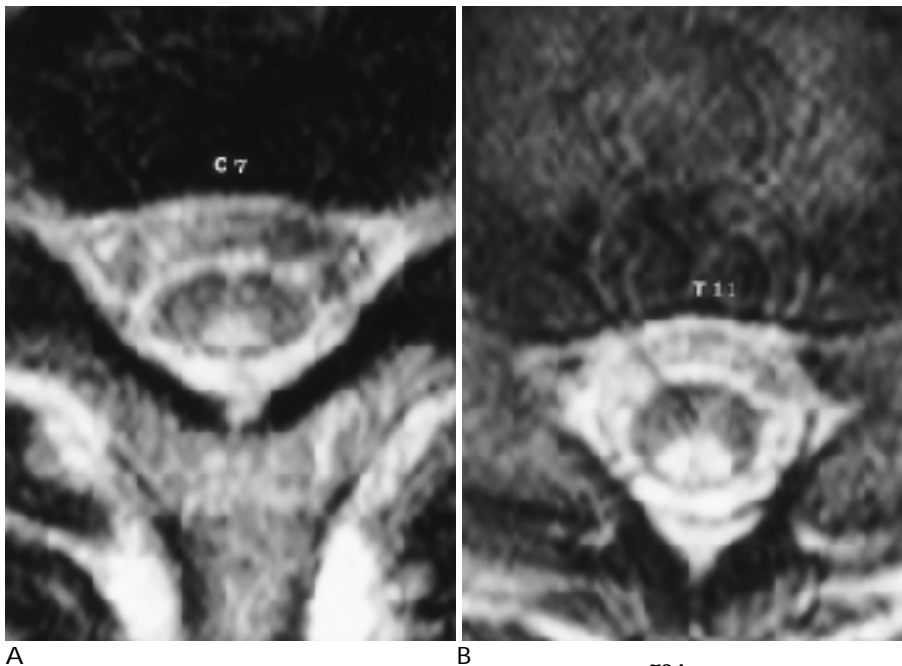


Fig. 2. Axial T2-weighted spin-echo MR images at C7 (A) and T11 (B) levels show high signal intensity in the posterior column.

B12 (myelopathy) B12 ,  
MRI  
B12  
1)  
(anorexia novosa),  
(parietal cell)  
(intrinsic factor, IF) , 3)  
B12, , 4)  
(ileitis terminalis), (ulcerative colitis),  
(intestinal tuberculosis),  
(1, 2).  
(myelin sheath)  
가  
(pernicious  
anemia) 가  
가  
가  
가

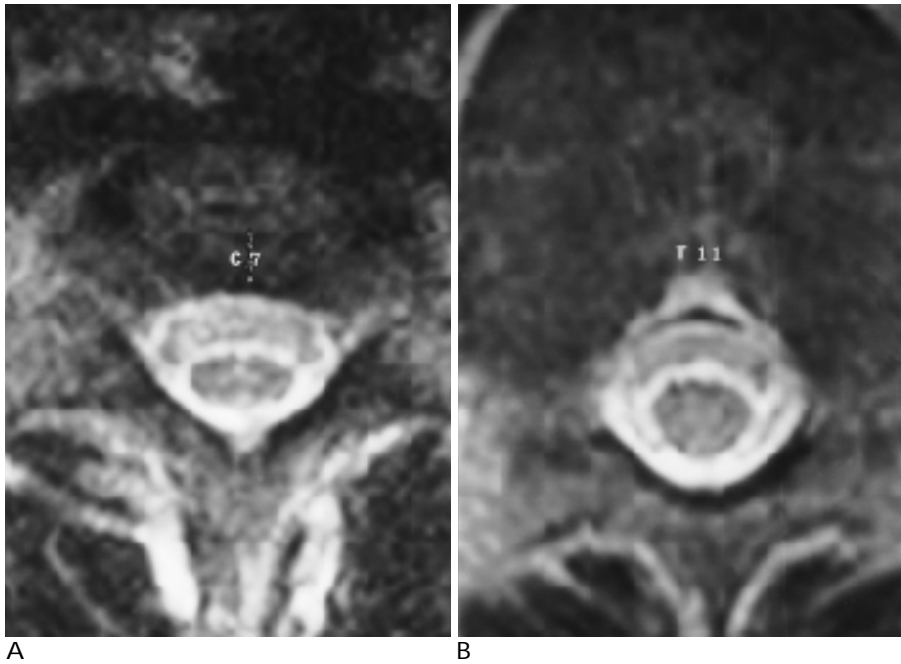


Fig. 3. At 10 months follow-up, T2-weighted MR images (TR/TE 4602/112) demonstrate markedly diminished hyperintensity in the axial images both at C7 (A) and T11 (B) levels.

Table 1. Reported Cases from the Literature Review with both Pre-and Post-treatment MR Images

	Author(s)	Year of Publication	No. of cases	Age/gender	Level of Initial Hyperintensity	F/U MRI	Findings in F/U MRI	Remarks
1	Berger et al.	1991	1	43/male	C3-4	3 yr.	normal	macrocytic anemia
2	Tracey & Schiffman	1992	1	36/female	C3-6	4 mo.	normal	pernicious anemia
3	Timms et al.	1993	1	69/male	C-T	5mo., 10mo.	decreased high SI	post-NO* anesthesia, pernicious anemia
4	Murata et al.	1994	1	66/male	T9-11	10wk.	normal	pulmonary Tb**, gastrectomy, macrocytic anemia
5	Hemmer et al.	1998	2	60/female	C2-7	8mo.	normal	pernicious anemia
				65/male	C2-7	12mo.	normal	pernicious anemia
6	Yousry et al.	1998	1	54/male	C-T-L	3mo., 6mo., 3yr.	returned to normal	CVID***, macrocytic anemia

\* NO: nitous oxide

\*\* Tb: tuberculosis

\*\*\* CVID: common variable immunodeficiency syndrome

가 (3). potentials)  
가 가 (axonal polyneuropathy)  
(3).  
가 가 (3, 4).  
B12 가 100pg/ml (multiple sclerosis), (neurosyphilis)  
가 (infectious myelitis), (dura)  
Schilling (barotrauma)  
(cobalamin), (2, 4, 5).  
(methylmalonic acid) (homocysteine) MRI T2  
가 T1  
가 (visual evoke  
potentials), (somatosensory evoked (6, 7).

가  
B12가  
MRI  
(9, 10).  
MRI  
(Table 1) (2, 4-8)  
MRI  
T2  
가  
B12 1000 µg  
1 1  
가  
가  
MRI  
MRI

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## MRI Findings of the Subacute Combined Degeneration of the Spinal Cord: A Case Report<sup>1</sup>

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Subacute combined degeneration (SCD) of the spinal cord is a neurological complication arising from vitamin B<sub>12</sub> deficiency. Typical findings are demyelination and axonal loss of the posterior and lateral columns of the thoracic and cervical spinal cord, leading to sensory ataxia and paresthesia. Clinical and neurological features and MRI findings all contribute to the diagnosis of this entity. In the Korean medical literature, only one case of SCD involving pre-treatment MRI has been reported. We describe one case of SCD in a post-gastrectomy patient who initially presented with progressive sensory abnormality in both upper and lower extremities and showed T2 hyperintensity in the posterior and lateral columns of the spinal cord; this diminished, with clinical improvement, after vitamin B12 therapy. Our report includes the MR images obtained during follow up.

**Index words :** Spinal cord, MR  
Vitamins

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