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Neurologic deficits and MRI characteristics of syrinx in idiopathic syringomyelia related scoliosis

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Background



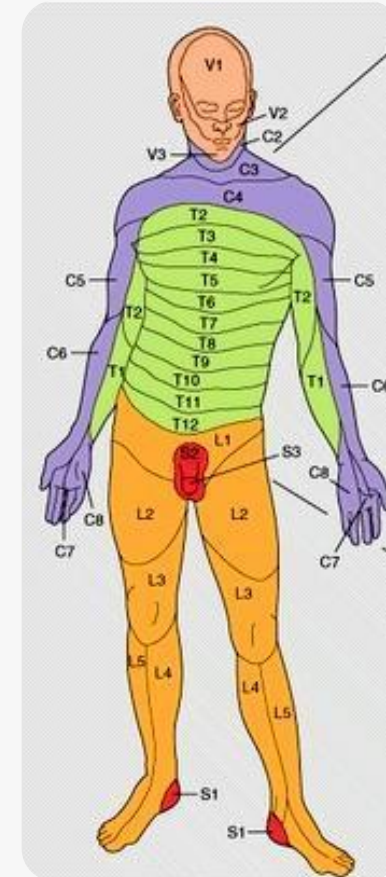
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**Scoliosis
(18-49%)**



**Idiopathic syringomyelia
(IS)**



**Neurologic deficits
(54-67%)**

Method



- Retrospective (June 2009 to December 2016)
- 55 cases (32 male/23 female)
- Radiological parameters of syrinx and scoliosis
- Clinical features of neurologic deficits

Inclusion criteria	Exclusion criteria
Idiopathic syringomyelia Syrinx length \geq 2 vertebrae Syrinx diameter $>$ 1mm	Other causes for syringomyelia (Chiari malformation, tethered cord syndrome, etc)
Idiopathic-like scoliosis	Other types of scoliosis (congenital, degenerative, etc)
Complete medical & radiological records	Spinal surgery history

Result

Scoliosis

Cobb

Flexibility of major curve

Apex vertebra translation

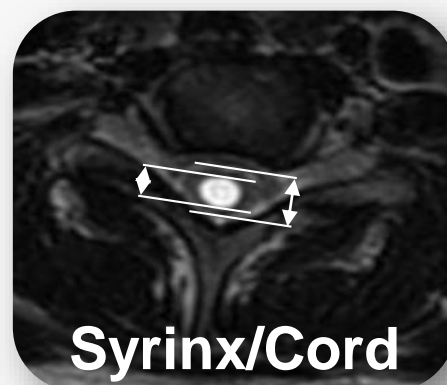
Global balance

Thoracic kyphosis

Lumbar lordosis

Sagittal vertical axis

**NO Significant
Correlation**



Neurologic deficit

Abnormal
tendon/abdominal reflex
(36, 65.5%)

Sensory deficit
(19, 34.5%)

Extremity weakness
(3, 5.4%)

Intact (19, 34.5%)

**NO Significant
Difference**

Result



NO Significant Correlation

Major curve direction	Syrinx deviation	
	Left	Non-Left
Left	6	13
Right	8	28
Fisher exact test, $P=0.52$		

Major curve direction	Syrinx deviation	
	Right	Non-Right
Right	9	27
Left	2	17
Fisher exact test, $P=0.29$		

Syrinx deviation	Neurologic deficit		
	Left	Both	Right
Left	3	3	3
Middle	6	7	5
Right	3	0	6
Fisher exact test, $P=0.21$			

Result

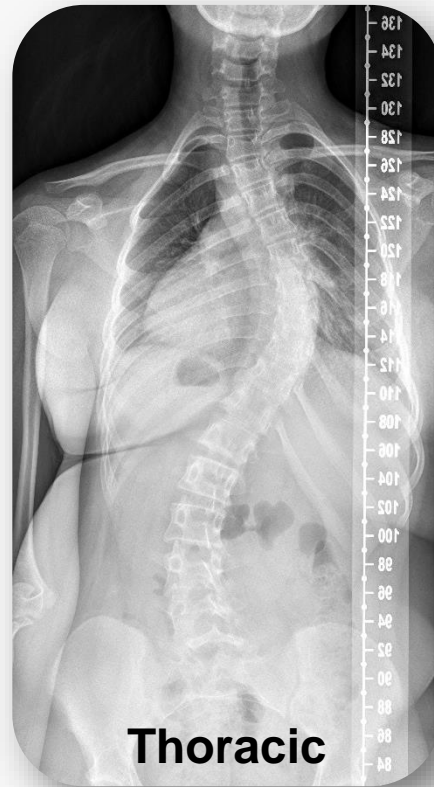


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NO Significant Correlation



**Sagittal location
of syrinx**



Thoracic



Thoracolumbar



Lumbar

Region of major curve/ Location of apex vertebra

Conclusion



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- No significant relationships are detected between syrinx MRI features, scoliosis curve parameters and neurologic deficits
- Correlation between IS, scoliosis and neurologic deficit is controversial

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Reference



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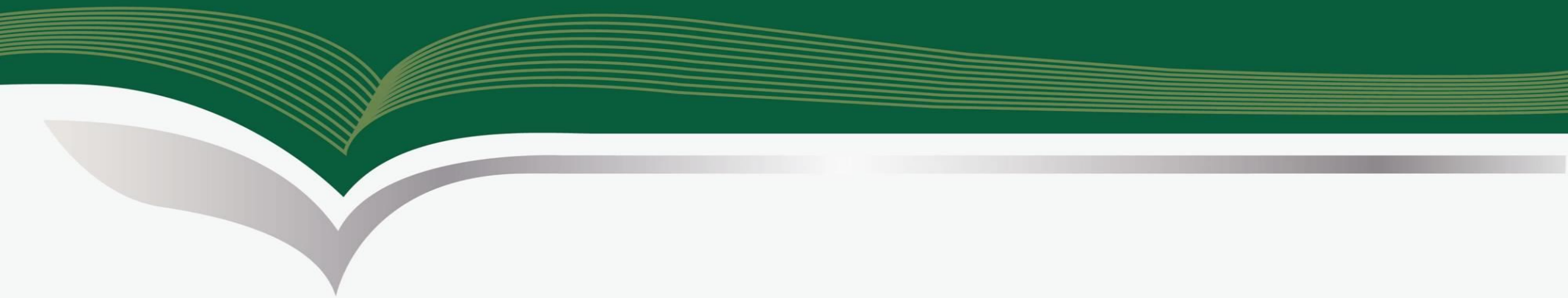
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Thanks



Disclosure



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None of the authors has any potential conflict of interest