

## MR IMAGING OF DIASTEMATOMYELIA: Report of 41 Cases

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### ABSTRACT :

*Diastematomyelia is a form of occult spinal dysraphism that could go undetected until adulthood with nonspecific complaints and neurologic-orthopedic symptoms. 41 patients (31 females, 10 males) with ages between 1-month and 36 years had X-rays, spinal MRI and either spinal CT or myelo-CT scan. We detected 43 diastematomyelic segments in 41 patients (two patients had two different locations with reunited spinal cord in between). Bony spur was present in 27 (65%). 61% of our cases had scoliosis and 20% had complaints related to lower extremity deformities. We conclude that the contents of the spinal canal must be carefully evaluated with cross-sectional imaging techniques such as CT, myelo-CT or MR Imaging in patients with scoliosis, before surgical correction. By these studies, major complications due to diastematomyelia can be avoided.*

**Key Words :** Diastematomyelia, MRI

### INTRODUCTION

Diastematomyelia is a form of occult spinal dysraphism that could go undetected until adulthood with nonspecific complaints and neurologic-orthopedic symptoms (1, 2). We present the radiological features and MR Imaging findings of 41 cases with diastematomyelia.

### METHODS

41 patients (31 females, 10 males) with ages between 1-month and 36 years had X-rays, spinal MRI and either spinal CT or myelo-CT scan. Myelography and myelo-CT were performed with nonionic contrast medium. MR Imaging was performed with a 0.5 Tesla unit (Gyrosan T5, Philips).

61% (25 patients) had scoliosis, 58% (24) had cutaneous stigmata, 49% (16) had neurologic symptoms, such as paraplegia or incontinence and 17% (7) had talipes equinovarus deformity.

### RESULTS

We detected 43 diastematomyelic segments in 41 patients (two patients had two different locations with reunited spinal cord in between). Bony spur was present in 27 (65%). The most common location for spur formation was L3 (5 cases); Th11 and L4 were the second most common sites (4 cases each). Hidromyelia (22 cases), tethered cord (19), sacral lipoma (9), meningocele - myelomeningocele - lipomyelome-

ningocele (8) and caudal regression (7) were the associated spinal anomalies.

### CONCLUSION

61% of our cases had scoliosis and 20% had complaints related to lower extremity deformities. Incidence of scoliosis and musculoskeletal abnormalities increases with the age (3).

70% of diastematomyelia cases do not have bony spur and 60% has one dural sack containing split cord (2, 3). In our series, 65% of our patients do not have spurs. This may be overlooked in myelography such as two of our cases who had preoperative myelography performed with Myodil and diastematomyelia was missed. These patients were operated for correction of the scoliosis deformity and ended with paraplegia. Likewise, we detected tethered cord in 46% of our cases that might be responsible for severe vascular insult to the cord if not detected before scoliosis treatment. We conclude that the contents of the spinal canal must be carefully evaluated with cross-sectional imaging techniques such as CT, myelo-CT or MR Imaging in patients with scoliosis, before surgical correction. By these studies, major complications due to diastematomyelia can be avoided.

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