Case Presentation: Diastematomyelia with Tethered Cord

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Introduction

- Diastematomyelia: Rare congenital spinal dysraphism
- Characterized by longitudinal split of spinal cord into two hemicords
- Often associated with osseocartilaginous spur, tethered cord, spina bifida
- Can present with progressive neurological deficits and urological issues

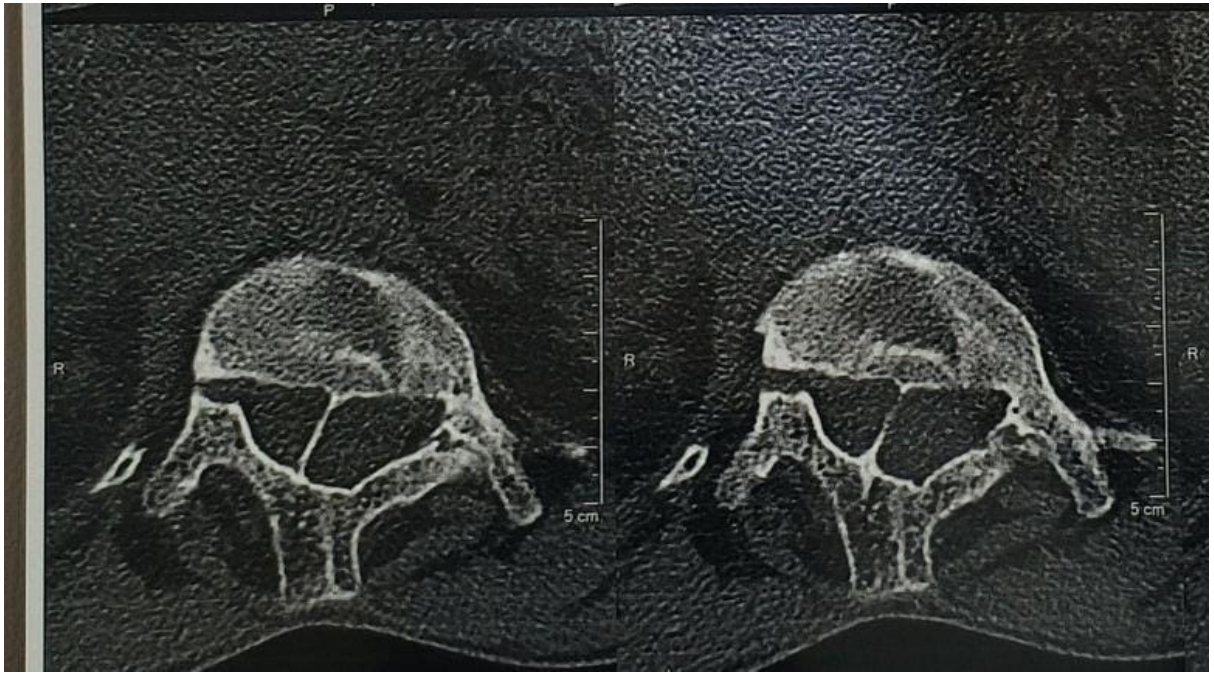
Case History

- 26year old male
- Known case of CKD with VUR (Right side)
- Complaints: Poor urinary stream, hesitancy, retention
- Patient was refered to neurosurgery department due to incidental finding on radiological scans

Examination Findings

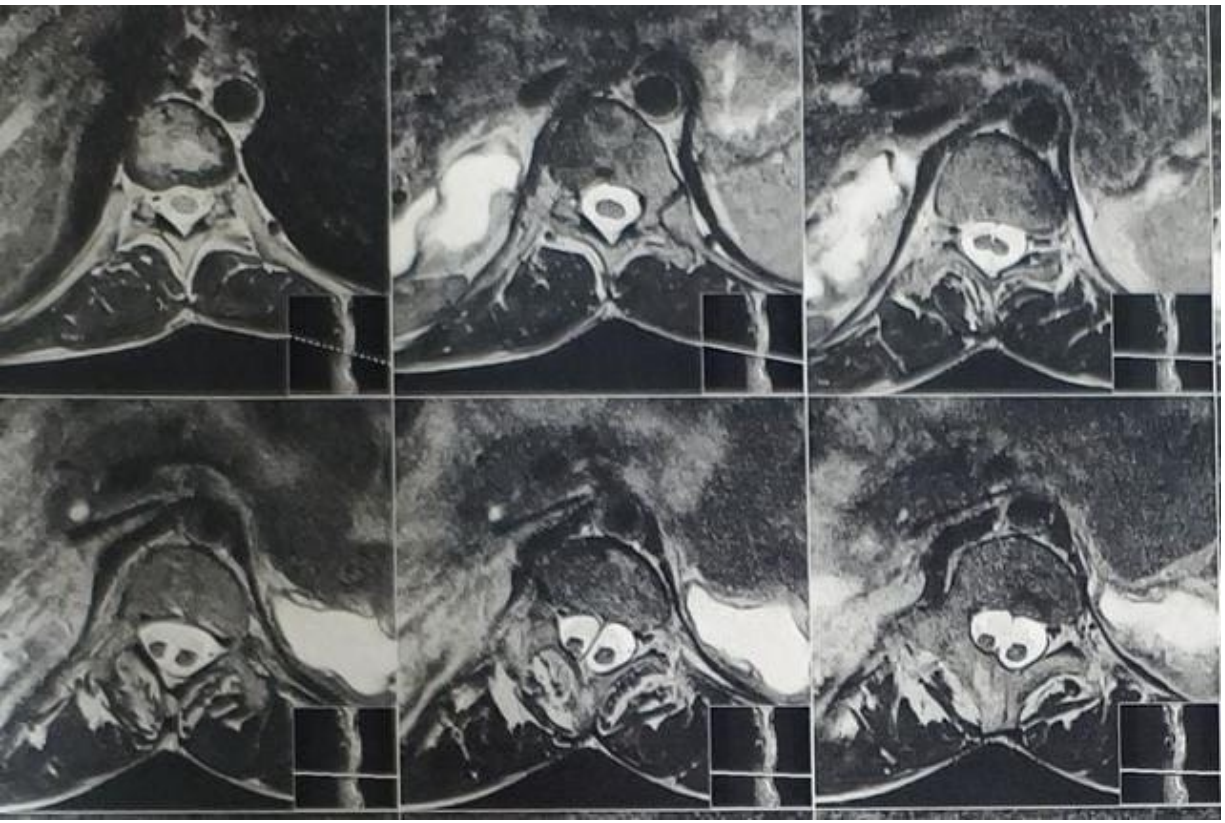
- Urological symptoms suggest neurogenic bladder dysfunction
- Bladder was partially distended with diffuse wall thickening on imaging
- No motor deficits

Radiological Findings - CT



- Butterfly vertebrae, L1–L2; Sacral agenesis; Hypoplastic sacrum
- Diastematomyelia at D12-L1 with osseous spur
- Spina bifida occulta at L5-S1
- Low lying spinal cord tethered up to S2
- Bilateral hydroureteronephrosis

Radiological Findings - MRI



- Diastematomyelia (Type I) with 2 hemicords from D12–L2
- Horseshoe cord from L2 to S1
- Low lying tethered cord with terminal end at S1

- Osteo-cartilaginous spur at D12–L1 splitting cord
- Partial sacral agenesis (S3–S5)

Diagnosis

- Type I Diastematomyelia (osseocartilaginous spur present)
- Tethered cord syndrome with low-lying conus
- Partial sacral agenesis
- Neurogenic bladder with hydroureteronephrosis

Surgical Management

- Laminectomy from D11 to L2 for exposure
- Midline osseous spur identified and drilled
- Two hemicords carefully separated and protected
- Dural reconstruction and duraplasty performed
- Objective: Remove tethering elements, reconstruct single dural tube


InShOt

Discussion

Diastematomyelia is a rare congenital spinal dysraphism characterized by longitudinal splitting of the spinal cord.

- Classified into two types:
  - Type I: Two hemicords in separate dural sacs, usually with a bony or cartilaginous spur (more symptomatic).
  - Type II: Hemicords in a single dural sac, usually without a spur (less symptomatic).
- Most cases present in childhood, but adult presentation (as in this case) is uncommon.
- Often associated with other anomalies: tethered cord, scoliosis, spina bifida, and vertebral segmentation defects.

- Symptoms: back pain, neurological deficits, bladder/bowel dysfunction.
- MRI is the investigation of choice for diagnosis and surgical planning.
- Neurosurgical management involves laminectomy, spur removal, detethering, and reconstruction of the dural sac.
- Early surgical intervention can prevent irreversible neurological damage.

- Early diagnosis essential to prevent irreversible deficits
- Complete removal of spur and detethering are crucial steps
- Timely surgical intervention prevents progression of neurological deficits

THANK YOU