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Clinical-Medical Image

Caudal Regression Syndrome

Hajar Adil*, Omar El-Aoufir, Nazik Allali, Latifa Chat and Siham El-Haddad

Department of Radiology, Children Hospital, Ibn Sina University Hospital, Medical University of Rabat, Morocco

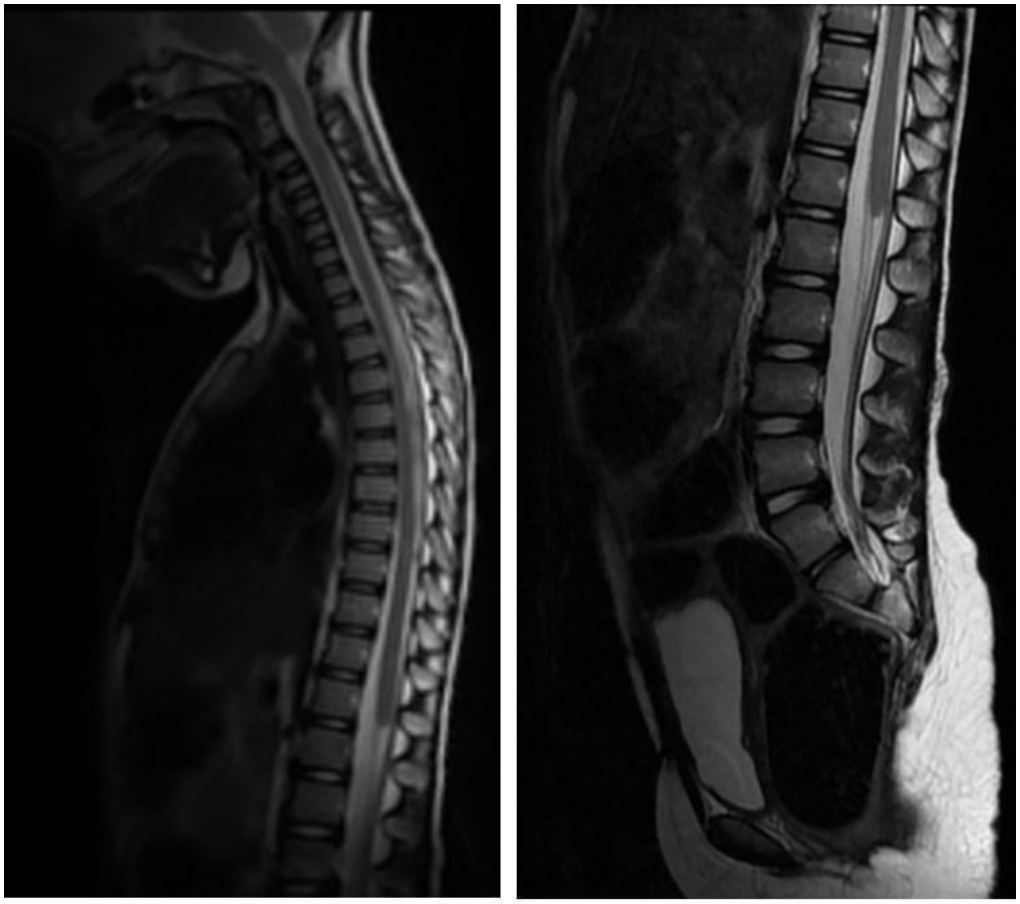

Figure 1: Spine MRI: Sagittal T2-weighted MR images showing: (A) High and abrupt termination of the spinal cord with a blunt-ending conus medullaris, (B) Absent S3–S5 and coccygeal segments (arrow).

Clinical Image

We report the case of a 6-year-old girl, presenting with urinary and fecal incontinence. Spine MRI was performed showed high and abrupt termination of the spinal cord with a blunt-ending conus medullaris as well as absent S3–S5 and coccygeal segments. These findings are consistent with type 1 caudal regression syndrome. Caudal regression syndrome (CRS) is a rare congenital malformation resulting from abnormal development of the caudal part of the spinal cord and vertebral column [1]. It is thought to be associated with an insult that occurs during gastrulation and some teratogen factors were involved, such as maternal hyperglycemia, infections, toxic and ischemic causes [2]. Patients may present with a broad range of symptoms ranging from mild lower limb sensorimotor deficits and deformities to neurogenic bladder and anal sphincter disorders [3,4]. Prenatal ultrasound can help make diagnosis in the 2nd or 3rd trimester. It demonstrates abrupt termination of the spinal cord with high blunt-ending conus medullaris and sacrococcygeal dysgenesis. Fetal MRI can be useful in difficult cases. Ultrasound helps to access other associated malformations such as genitourinary and gastrointestinal anomalies [5]. MRI is the modality of choice for detailed evaluation as it allows a better assessment of spinal cord malformations, levels of vertebral agenesis and helps identify other dysgraphic dysplastic anomalies [5] (Figures 1 and 2).

***Corresponding author:** Hajar Adil, Department of Radiology, Children Hospital, Ibn Sina University Hospital, Medical University of Rabat, Morocco, Tel: +2120666848981; E-mail: hajaradil1991hajara@gmail.com*

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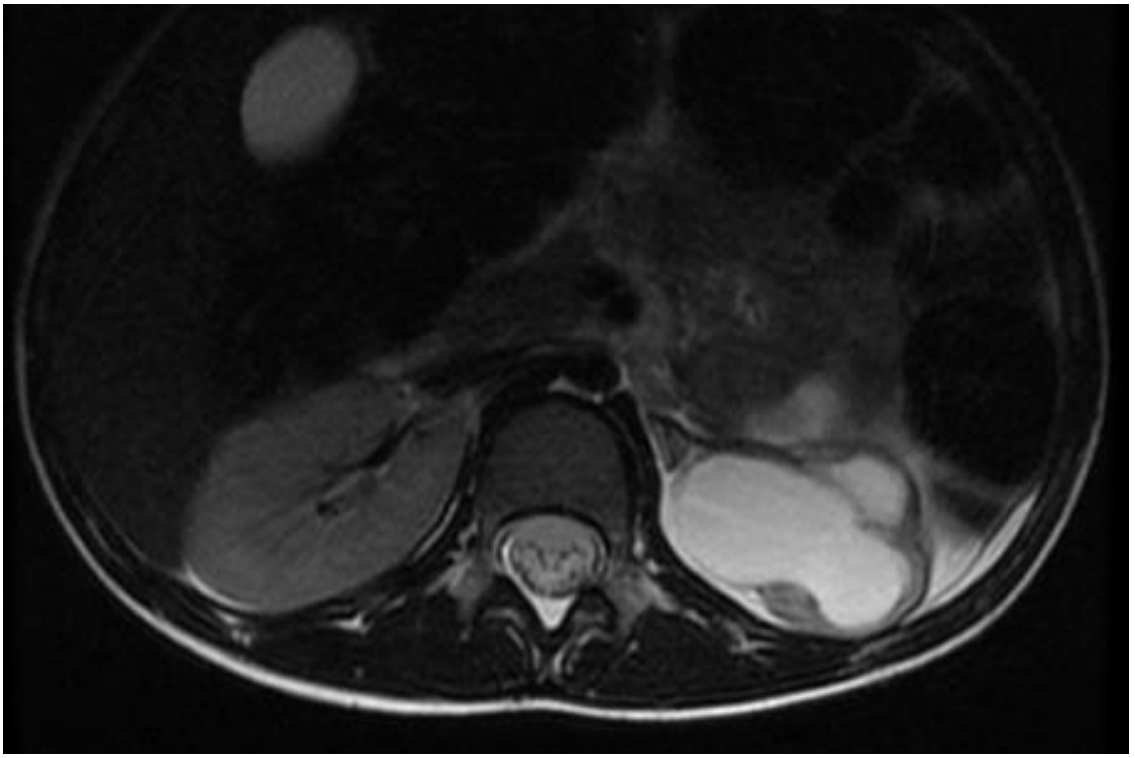

Figure 2: Axial T2-weighted MR image in the same patient showing left ureterohydronephrosis complicating neurogenic bladder (arrow)

CRS is divided into two board groups [6]:

• **Group 1:** the conus medullaris is abrupt and ends above the normal level, with associated vertebral aplasia in several grades of coccygeal, sacral, lumbar, and lower thoracic vertebrae.

• **Group 2:** the conus medullaris is elongated and ends below the normal level. It is tethered by a thickened filum terminal, intraspinal lipoma, terminal myelocystocele, or lipomyelomeningocele.

The treatment depends on the clinical presentation. Its main goal is to maintain, and improve renal, cardiac, pulmonary and GI function.

Keywords: Tetragon; Caudal regression syndrome

Declaration of Interests

The authors declare that they have no competing interests.

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