Teaching Neuroimages: Prenatal Diagnosis of Limited Dorsal Myeloschisis

Author(s):
Lauren Jiayu Fu, MBBS\textsuperscript{1}; Velda Xinying Han, MRCPCH\textsuperscript{1,2}; Jeremy Bingyuan Lin, MRCPCH\textsuperscript{1,2}; Clement HR Yong, FRANZCR\textsuperscript{1,3}; Betsy KH Soon, FRCR\textsuperscript{1}; Furene Sijia Wang, 1,2; Vincent DW Nga, MRCS, FRSCEd\textsuperscript{4}

Corresponding Author:
Furene Sijia Wang, furene_wang@nuhs.edu.sg

Affiliation Information for All Authors:
1. Khoo-Teck Puat-National University Children’s Medical Institute, National University Health System, Singapore; 2. Yong Loo Lin School of Medicine, National University of Singapore, Singapore; 3. Department of Diagnostic Imaging, National University Health System, Singapore; 4. Division of Neurosurgery, Department of Surgery, National University Health System, Singapore

Equal Author Contribution:

\textit{Neurology\textsuperscript{\textregistered} Published Ahead of Print articles have been peer reviewed and accepted for publication. This manuscript will be published in its final form after copyediting, page composition, and review of proofs. Errors that could affect the content may be corrected during these processes.}

Copyright © 2022 American Academy of Neurology. Unauthorized reproduction of this article is prohibited
The fetus of a 34-year-old primigravida with gestational diabetes but no folate deficiency, was found to have a posterior sacral cystic lesion at 21-weeks ultrasound. Fetal magnetic resonance imaging (MRI) at 22-weeks revealed a 2.3x1.1x2.2cm hyperintense cystic lesion, resembling a meningocele without bony or intracranial abnormalities (Figure-1). Postnatally, a midline fluid-filled sacral mass with squamous epithelial covering was seen (Figure-2A). Neurological examination was normal. Postnatal MRI confirmed the diagnosis of limited dorsal myeloschisis (LDM) and also detected Chiari I malformation (Figure-1). LDM should be considered in posterior sacral cystic lesions without bony abnormalities, and has a better prognosis than meningoceles. 

References


Figure-1: Neuroimaging (T2-weighted)

22-weeks Fetal MRI: (A) Sagittal, (B) Axial images of the lesion
Postnatal MRI (C) Spine (Axial): Fibroneural stalk (arrow). Fine neural elements (dotted), (D) Brain (Sagittal): Chiari I malformation.
Figure-2: Clinical images

(A) 3.5x5cm LDM.
Intra-operative photos: (B) Fibroneural stalk, (C) Tethered cord, S2 (D) De-tethered cord
Teaching Neuroimages: Prenatal Diagnosis of Limited Dorsal Myeloschisis
Lauren Jiayu Fu, Velda Xinying Han, Jeremy Bingyuan Lin, et al.

Published online July 18, 2022
DOI 10.1212/WNL.0000000000201041

This information is current as of July 18, 2022

Updated Information & Services
including high resolution figures, can be found at:
http://n.neurology.org/content/early/2022/07/18/WNL.0000000000201041.citation.full

Subspecialty Collections
This article, along with others on similar topics, appears in the following collection(s):
MRI
http://n.neurology.org/cgi/collection/mri

Permissions & Licensing
Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
http://www.neurology.org/about/about_the_journal#permissions

Reprints
Information about ordering reprints can be found online:
http://n.neurology.org/subscribers/advertise