



Cases of Dorsal Dermal Sinus at Various Spinal levels and Complications

OU
Radiology

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What is Dorsal Dermal Sinus?

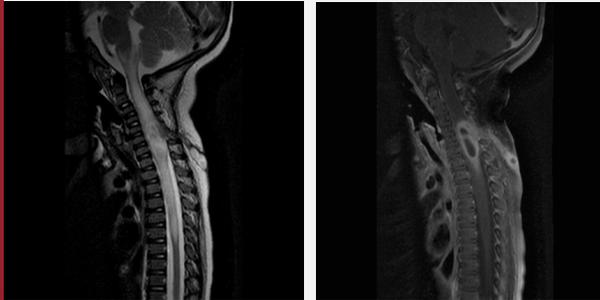
- Congenital epithelial lined tract- extends from skin to thecal sac.
- Midline in location.
- Most often asymptomatic; manifest as a pinpoint ostium or dimple with increased pigmentation and hypertrichiosis.

How common is it?
1 in 2500 live births.

What is the pathogenesis?

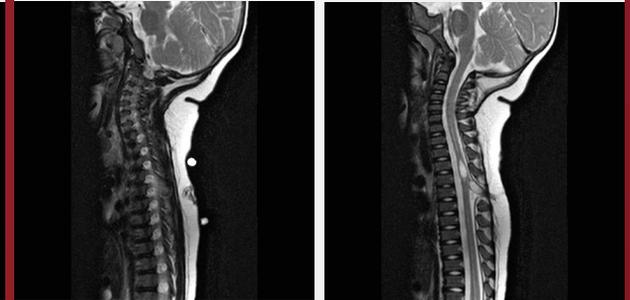
Surface ectoderm doesn't separate fully from neuroectoderm → segment of adhesion → spinal cord ascends and it stretches the adhesion → long, tubular tract is formed. Degree depends of how incomplete the separation of ectoderm is.

Cervical level



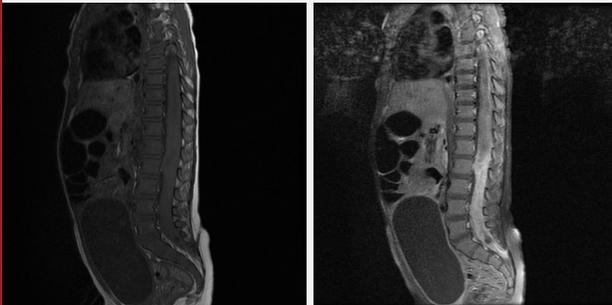
Sagittal: T2 and T1 with Contrast/Fat Sat. Infected tract with spinal extension at the level of C6.

Thoracic level



Sagittal images demonstrating a dermoid with intact sinus tract at the upper thoracic levels.

Lumbosacral level



Sagittal T1 pre and post contrast images demonstrate a lumbosacral infected tract with a large intrathecal abscess.

Any associations?

Mostly it is an isolated phenomenon but can occur with split cord malformations, lipomyelocele, intradural lipoma, filum terminale malformations or dermoid lesions.

What could be in the tract?

Fat, blood vessels, ganglion cells, cartilage, meningeal remnants.

MC location: Lumbosacral region.

What are the common complications?

- Recurrent meningitis.
- Subdural or epidural abscess.
- Intramedullary abscess.
- Hemorrhage

Take home

- Commonly midline in location.
- Most cases are asymptomatic at identification.
- Identification in asymptomatic cases is important as it can prompt surgical management, thus avoiding aforementioned complications.
- Ultrasound can be utilized initially.
- Diagnostic modality of Choice: MRI

References:

- Dorsal Dermal Sinus. Mitchell T Foster et al., The BMJ: Research, 2019.
- Morandi X, Mercier P, Fournier H-D, et al., Dermal sinus and intramedullary spinal cord abscess. Child's Nervous system 1999; 15:202-7
- Hassan Aboughalia, Sakura Noda, Teresa Chapman, Margarita V. Revzin, Gail H. Deutsch, Samuel R. Browd, Douglas S. Katz, Mariam Moshiri. 2021. Multimodality Imaging Evaluation of Fetal Spine Anomalies with Postnatal Correlation. RadioGraphics 41:7, 2176-2192