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Neuroimaging Spectrum of Compressive Non-Neoplastic Myelopathy

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Purpose

Compressive non-neoplastic spinal cord lesions represent a broad spectrum of neurologic disease processes contributing to back pain and neuropathy, including traumatic, inflammatory/infectious, degenerative, and metastatic etiologies. Compressive cord lesions are optimally evaluated with high-field strength magnet MRI with and without contrast. Differential diagnoses for cord lesions are inherently broad due to the nonspecific nature of increased intramedullary signal on T2-weighted images seen with many cord pathologies. However, differentiating features such as degree of cord expansion, enhancement characteristics, and extramedullary findings can provide additional information to refine the differential diagnosis. In this exhibit, we present representative cases of compressive non-neoplastic spinal cord lesions from our institutional archive, outlined accordingly: traumatic (traumatic spondylolisthesis with cord contusion, epidural hematoma), infectious/inflammatory (epidural abscess), degenerative (disk herniation, spinal stenosis), and metastatic (osseous metastasis with cord compression). These cases will be presented according to our institutional protocol: sagittal T1, sagittal T2, sagittal STIR, axial T2*, axial T2, axial T1 without and with contrast, and diffusion weighted imaging. Each case will include brief literature review with discussion points. Objectives -Review common spinal cord lesions under the category of compressive, non-neoplastic. -Characterize compressive non-neoplastic cord lesions according to anatomic distribution, MRI signal characteristics, enhancement patterns, and relationship to symptom onset and clinical presentation.

Materials and Methods

N/A

Results

N/A

Conclusions

Disease processes relating to compressive non-neoplastic spinal cord lesions are numerous and often difficult to delineate from one another. A thorough knowledge of pathologies within this category, along with key imaging findings to differentiate these pathologies, can aid the radiologist in developing a practical and accurate differential diagnosis, ultimately leading to better patient outcomes.



Figure 1. Sagittal T2-weighted image of the cervical cord demonstrates traumatic spondylolisthesis at C6-7 with resultant cord compression.



Figure 2. Sagittal T2-weighted image of the cervical cord demonstrates an epidural hematoma of the upper thoracic cord with cord compression.



Figure 3. Contrast-enhanced (a) sagittal and (b) axial T1-weighted images of the lumbar spine demonstrate a lumbar epidural abscess with cord compression.

(Filename: TCT_1045_compressiveMyelopathyFinal.jpg)

Neuroimaging Spectrum of Non-Compressive Non-Neoplastic Myelopathy

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Purpose

Non-compressive, non-neoplastic spinal cord lesions represent a broad range of disease processes and entities. Most commonly, spinal