Spine and Spinal Disorders

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Role of Radiology in diagnosis of Lumbar Spinal Stenosis: Presenting a new method using CSF signal

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Lumbar spinal stenosis (LSS) is one of the most common causes of spinal surgery and there is no gold standard method for its diagnosis. Patient history, symptoms, physical examination findings, and radiological findings are all used together for diagnosis. Main symptom of LSS neurogenic claudication, which disapper at rest and might be confusing about physical examination findings. Radiologic examinations focus on demonstrating the narrowing of spinal canal. Diagnostic tools such as the midsagittal width of the dural sac and cross-sectional area (CSA) of spinal canal and sural sac, sedimentation sign are generally used in Radiology. These methods have different limitations and powers and might result in over- and underdiagnosis of LSS, especially in patients with moderate or mild stenosis of the spinal canal or in patients with lateral stenosis. We would like to introduce a new radiological method to diagnose LSS using a scoring system based on the cerebrospinal fluid signal loss (CSFSL) in T2-weighted images in the sagittal plane for the diagnosis of LSS. We also hope that usage of this new method on preoperative imaging will increase the safety of the operation.

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