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The resurgence of CT Myelogram using HRCT with dynamic oblique reconstruction in the age of MRI

Keyur Kantilal Akbari, Sajan K Hegde and Muralidharan Venkatesan

Apollo Hospitals, Chennai

Aim: This prospective study compares the diagnostic utility of High-resolution CT Myelogram (CTM) with Magnetic Resonance Imaging (MRI) in Degenerative Lumbar Spine Disorder.

Methodology & Theoretical Orientation: From October 2018 to October 2019, we reviewed 20 patients with a minimum of 6 months of follow-up who presented with symptomatic Lumbar Degenerative Disorder but MRI findings were ambiguous to localize the level and extent of the lesion. These patients underwent CTM as an additional investigation. VAS and ODI scores were used to analyze functional outcomes.

Finding: MRI revealed compression in 38 levels and CTM predicted 29 levels. 18 out of 20 patients underwent surgery and a total of 29 levels were decompressed as localized in CTM. The preoperative VAS for back pain and leg pain was 6 ± 0.73 and 7 ± 0.4 and at final follow-up, at six months the VAS for back pain and leg pain was 2 ± 0.80 and 0.3 ± 0.1 respectively. Pre-op ODI score was 56 ± 6.92 and post-op at 6 months was 18 ± 4.28 . Paired sample t-test showed that this improvement was significant (p< 0.0001; 95% confidence interval: 3.5 to 4.5). Surgery was not performed on patients (2 cases) when MRI was showing compression but CTM was a negative and resultant decrease in symptoms at final follow up noted. There was agreement on the number of levels between MRI and CTM in 9 cases (50%). MRI tended to exaggerate the number of involved levels in 9 cases (45%) whereas in the remaining 1 case (5%), MRI tended to underestimate the number of involved levels. As we consider CTM as a gold standard to accurately identify the level of compression due to stenosis, the sensitivity and specificity of MRI were 94.44% and 50% respectively.

Conclusion: CTM is a crucial supplemental study to formulate a management plan in cases where MRI is ambiguous

Biography

Keyur Kantilal Akbari is a fellowship-trained Orthopedic Spine Surgeon, working as a Junior Consultant at Apollo Hospitals, Chennai. I have completed my M.S. in Orthopedics from Pramukh Swami Medical College in 2017 and following that did an extensive 2 year Spine Fellowship under Dr. Sajan K Hegde at Apollo Hospitals, Chennai from 2018-2020. I have presented our research work in many national and international Spine Conferences and have publications in peer-reviewed indexed journals. I have a special interest in Spinal Deformity Correction, Lumbar and Cervical Degenerative Conditions, Motion Preservation Surgeries, and innovations in Spine Surgery.

e: keyur21088@yahoo.co.in