

## 00250 Appropriateness of MRI Lumbar Spine Orders for Backpain in a General Hospital

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**Aims:** MRI for lumbar backpain is costly can contribute to increased healthcare costs if used inappropriately. Retrospective study of MRI Lumbar spine cases done in Sengkang Hospital to check if orders conform to American College of Radiology (ACR) appropriateness criteria.

**Methodology:** MRI Lumbar spines performed for lumbar backpain in 2016 in Sengkang Hospital were reviewed and divided into the 6 different categories set out by ACR. MRI results were divided into 1) serious findings (SF) of spinal cord / cauda equina compression, metastatic cancer, spinal epidural abscess, vertebral osteomyelitis, 2) Less serious findings (LSF) of vertebral compression fracture, radiculopathy, spinal stenosis due to intervertebral disc pathology and 3) Non-specific findings (NSF) with no radiculopathy or spinal stenosis.

**Result:** There was 253 MRI Lumbar spine scans done from January 2016 to December 2016. In 59 cases with no red flags, there were 0(0%) SF, 43(72.9%) LSF and 16(27.1%) NSF. In 86 cases with low velocity trauma, osteoporosis, involving elderly individual (65 year old and above) or chronic steroid use, there were 1(1.2%) SF, 77(89.5%) LSF and 8(9.3%) NSF. In 24 cases with cancer, infection or immunosuppression, there were 10(41.7%) SF, 11(45.8%) LSF and 3(12.5%) NSF. In 58 with history of progressive symptoms during or following 6 weeks of conservative management, there were 0(0%) SF, 50(86.2%) LSF and 8(13.8%) NSF. In 6 with previous lumbar surgery, there were 0(0%) SF, 0(0%) LSF and 6(100%) NSF. In 20 with suspected cauda equina syndrome or rapidly progressive neurologic deficits, there were 0(0%) SF, 19(95%) LSF and 1(5%) NSF.

**Conclusion:** No serious findings are seen in the 23.3% (59 out of 253) cases ordered inappropriately. Most serious findings were found in patients with history of suspected/known infection, cancer or immunosuppression.