

Magnetic resonance imaging evaluation of the scoliotic patients before spinal instrumentation and fusion: A prospective study in tertiary care hospital

Ashfaq Ahmed and Abdullah Shah

Ghurki Trust Teaching Hospital, Pakistan

Introduction: Magnetic resonance imaging is necessary pre-operatively to assess the prevalence of structural and functional abnormalities within the spinal cord in patients with scoliosis. There is no consensus on the use of MRI in these patients pre-operatively. MRI, echocardiography and ultrasound should be a part of routine evaluation in all these patients before surgery, no matter positive clinical findings were found or not.

Objective: The main objective of this study was to analyze the occult spinal pathologies associated with different types of scoliosis.

Methodology: This was a prospective study include 89 patients who was diagnosed as a case of scoliosis and were planned for scoliosis surgery from January 2015 to December 2018 after Hospital Ethical Committee approval and written informed consent from the patients. The patients who were unfit for surgery or managed conservatively were excluded from the study. All the patients underwent magnetic resonance imaging pre-operatively. The MRI findings of these patients were initially recorded on a pre formed pro forma and then analyzed using SPSS 21.0 version.

Results: There were 29 (33.37%) males and 58 (66.67%) females with male to female ratio of 0.5:1 and with mean age of 14.54 ± 2.34 years. There were 56 (64.4%) idiopathic and 31 (35.6%) congenital scoliosis. Among different pathologies, 4 (04.59%) patients were having diastomyelia, tethered cord in 2 (2.29%) patients, syringomyelia in 10 (11.49%) and Chiari malformations in 2 (2.29%) patients; no patients having diplomyelia and lipoma, dural defects in 2 (2.29%), conus 9 (10.34%) and 1 (1.15%) foramen magnum compression. Among other rare anomalies, hydromyelia was found in 3 (3.44 %), tonsillar ectopia in 2 (2.29%) and OS odontoid in 1 (1.14%). Only 5 (5.74%) of patients having neurology involved while having neurology intact.

Conclusion: Patients with scoliosis having different pathologies that cannot be determined on examination and X-rays. Pre-operative magnetic resonance imaging is essential to determine these different types of pathologies found in these patients before undergoing any surgical intervention.

Biography

Ashfaq Ahmed did his Bachelor in Medicine and Surgery at age of 22 years from Khyber Medical University, Pakistan. Then He did Master in Public Health From Sarhad University, Pakistan. After that he did FCPS in Orthopedics and Spine Surgery from College of Physicians and Surgeons, Pakistan. At 2018. Currently he is working as a Senior Registrar at Ghurki Hospital, Pakistan as well as Fellowship in Spine Surgery. He is also running Research Department at his own Hospital. He has attended multiple national as well as International Conferences and presented papers. He has published upto now 48 papers at National and International Papers. During his bachelor degree, He was awarded multiple Gold medals during his student life.