Abstract

Spinal Muscle Atrophy in Patients with Lumbar Spinal Canal Stenosis (LSS) – Correlation with Body-Mass Index

Bolog N, Held U, Andreisek G, Winklhofer SFX

National Conference of Radiology, Iasi (RO)
(Oral Presentation)

Purpose
To investigate the degree of paraspinal muscle atrophy assessed with magnetic resonance imaging (MRI) in a large patient group with lumbar spinal stenosis (LSS) and to correlate with the body-mass index (BMI).

Methods/Materials
Atrophy of the paraspinal muscle was assessed in 763 lumbar segments on MRI images in patients with lumbar spinal canal stenosis. Two radiologists independently assessed the atrophy according to Goutallier classification and the grade of atrophy was correlated with BMI.

Results
Muscle atrophy was assessed as follows: Grade 0: 153 segments (20%), grade 1: 292 segments (38%), grade 2: 245 segments (32%), grade 3: 48 segments (6%), grade 4: 25 segments 3%). Pearson correlation analysis demonstrated a significant positive correlation between BMI and muscle atrophy ($p > 0.01$). According to Pearson correlation, there was a significant positive correlation between BMI and muscle atrophy ($p > 0.01$) and the BMI was significantly higher in patients with remarkable muscle atrophy (grade 2-4) compared to patients without remarkable muscle atrophy (grade 0-1).

Conclusion
Obese patients with lumbar spinal canal stenosis have a high correlation with spinal muscle atrophy.