



Age distribution of three radiologic factors for lumbar instability: probable aging process of the instability with disc degeneration

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STUDY DESIGN: Cross-sectional study of 880 outpatients with low back and/or leg pain regarding age distribution of three radiologic factors. **OBJECTIVES:** To investigate the proportion and relationship of three individual radiologic factors with age on segmental instability in sagittal plane in consecutive age groups. **SUMMARY OF BACKGROUND DATA:** Previous studies revealed relationships between radiologic factors for instability and symptoms; however, little is known about the relationship between factors and age except in degenerative spondylolisthesis. **METHODS:** Excessive segmental motion, defined as more than 10 degrees angulation, more than 3 mm translation, and more than 3 mm slip in neutral position, at the L4-L5 segment in 880 outpatients (389 men, 491 women) with low back and/or leg pain aged from 14 to 84 years was investigated by 3 observers. The number and rate of the patients with each excessive motion were evaluated in continuous age groups of 5 years. **RESULTS:** The mean ages of patients with excessive angulation, translation, and slip in neutral position were 41.7, 50.0, and 62.8 years, respectively. Both rates of excessive angulation and translation showed two peak patterns demonstrating peaks in the teens and 20s groups and in the over 46 age groups; however, angulation was predominant in younger age groups and translation was predominant in older age groups. Slip in neutral position was frequently observed in age groups over 46 and increased with age.

CONCLUSIONS: The presence of patients with excessive angulation and translation in younger age groups suggests they have a hypermobile segment with least degenerated discs. Different predominant patterns of these radiologic factors may reveal the probable aging process of the instability.

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