

FAMILY HISTORY OF LOW BACK PAIN IS A SIGNIFICANT PREDICTOR OF PAIN AND DISABILITY BETWEEN EXTREME STAGES OF LUMBAR DISC DEGENERATION

Samartzis D,¹ Bow C,¹ Karppinen J,² Luk KDK,¹ Cheung BMY,³ Cheung KMC¹

¹Department of Orthopaedics and Traumatology, The University of Hong Kong, Hong Kong

²Institute of Clinical Medicine, University of Oulu, Oulu, Finland

³Department of Medicine, The University of Hong Kong, Hong Kong

INTRODUCTION: This large-scale population-based study addressed the role of magnetic resonance imaging (MRI) findings, lifestyle / environmental / cardiovascular factors, and low back pain (LBP) family history in extreme stages of lumbar disc degeneration (i.e. non-degenerated [normal] vs. moderate / severe disc degeneration) on MRI as well as LBP occurrence.

METHODS: This was a cross-sectional study of the Hong Kong Disc Degeneration-Cardiovascular Cohort which composed of 1800 Southern Chinese volunteers. The study entailed 2 groups: Group 1 (n=229) included non-degenerated discs and Group 2 (n=335) included moderate / severe global disc degeneration. Blood chemistry, anthropometric, lifestyle / environmental as well as pain profiles were obtained.

RESULTS: In Group 1, multivariate regression modelling noted that LBP family history (odds ratio [OR], 3.80; 95% confidence interval [95% CI], 1.43-10.04; p=0.007), younger age (0.92; 0.89-1.01; p=0.069), and elevated high-sensitivity C-reactive protein (1.26; 0.91-1.73; p=0.17) were related to LBP. Regarding Group 2, multivariate regression model noted that male gender (14.84; 1.30-169.70; p=0.030), younger age (0.80; 0.68-0.96; p=0.014), and elevated erythrocyte sedimentation rate (1.11; 1.01-1.23; p=0.032) were significantly associated with LBP. The LBP family history was the predominant factor significantly associated with abnormal functional / disability scores in both groups (p<0.05).

CONCLUSIONS: This study illustrated for the first time why certain individuals developed LBP, irrespective of MRI findings, which largely attributed to LBP family history.