E-Poster

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Chronic Low Back Pain and Spinopelvic Parameters – A Case-Control Study

Topic: Pain

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BACKGROUND

Chronic low back pain (CLBP) is a leading cause of Disability-Adjusted Life Years. Understanding the pathophysiology of CLBP can aid in both prevention and treatment strategies. This study aimed to evaluate the role of spinopelvic parameters, namely lumbar lordosis (LL), pelvic incidence (PI), pelvic tilt (PT), and sacral slope (SS), in CLBP as defined by the NIH Pain Consortium.

METHODS

This case-control study was conducted at a tertiary care hospital. Spinopelvic parameters were compared between the CLBP group and age- and sex-matched controls after obtaining institute ethics committee approval. A total of 140 subjects (70 in each group) with a body mass index of 18.5-29.9 were enrolled in the study. The mean age was 40 years, with 60% being females, and the majority (49%) had pain for more than 10 years. Spinopelvic parameters were measured using RadiAnt DICOM Viewer software (2021.2) from a standard digital lateral view radiograph of the entire spine. Symptom severity was assessed using the Research Task Force (RTF) impact score calculated from the NIH Pain Consortium dataset questionnaire for CLBP. Data were analyzed using two-sample t-test, Mann-Whitney U test, Spearman correlation, and ANOVA test with STATA 16 software.

RESULTS

Significant differences were observed in PI and PT between the CLBP group and the control group, but not in LL and SS, with high PI being more marked. A significant positive correlation was observed between LL, PI, SS, and the RTF impact score, with SS having a strong correlation.

CONCLUSION

Spinopelvic parameters (PI and PT) were significantly different in individuals with CLBP compared to controls and correlated strongly (SS) with the severity of CLBP. Although CLBP has a multifactorial pathogenesis, identifying individuals at risk based on spinopelvic parameters may help in targeted prevention and rehabilitation programs.

Statement of Disclosures

None

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