

Abstracts

NMA/AGSM/2022/BMS/002 - Morphometry of the Psoas Muscle in Individuals with Chronic Low Back Pain Using Magnetic Resonance Imaging

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Abstract

Background: Psoas muscle is located in the iliopsoas compartment; it originates at the transverse process of the lumbar vertebrae; T12-L5 and inserts at the lesser trochanter of the femur. Chronic low back pain is low back pain lasting more than 12 weeks. The aim of this study was to determine the dimensions of the psoas muscle in patients with chronic low back pain using magnetic resonance imaging (MRI).

Methodology: This retrospective study was done in the Radiology department of the Rivers State University Teaching Hospital following ethical approval. Sixty MRI images of sixty patients, 18 years and above were used to study the psoas muscle. Data were analyzed using SPSS version 23.0 and Excel 2019 edition. Sex differences were determined using T-test, while side differences were determined using paired T-test. Differences in measured parameters across body mass index (BMI) categories were determined using ANOVA. The confidence interval was set at 95% and $P < 0.05$ was considered statistically significant.

Results: Dimensions of the right psoas muscle obtained were higher in males compared to females. Sexual dimorphism was observed in the height ($T = 2.30$; $P = 0.02$) of the individuals with chronic low back pain. There was no sexual dimorphism in all measured parameters at $P < 0.05$, implying that the dimensions of the psoas muscle in chronic low back pain are the same for both sexes. Mean width was higher in obese subjects (4.26 ± 0.45 cm), followed by overweight (4.19 ± 0.41 cm) and normal subjects (3.73 ± 0.46). The mean length of the psoas muscle followed a similar pattern.

Conclusion: Sexual dimorphism was observed in the height of individuals with chronic low back pain. However, there was no sexual dimorphism in other parameters, suggesting that the dimensions of the psoas muscle in chronic low back pain are the same for both sexes.

Keywords: Psoas Muscle; Chronic Low Back Pain; Magnetic Resonance Imaging.

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