E-Poster

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Overpronation of the Foot as a Risk Factor for Chronic Low Back Pain: Myth of Reality?

Topic: Health Conditions (Nervous System, Musculoskeletal System, Cardiopulmonary System)

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BACKGROUND

Chronic low back pain (CLBP) is a major public health problem, with a significant impact on patients' quality of life and functional capacity. Various risk factors contribute to the onset of CLBP, an abnormal posture and function of the feet have also been suggested as possible risk factors for this condition. The aim of our study was to explore the relationship between foot overpronation and CLBP, and to assess the effectiveness of foot orthotics in improving CLBP.

METHODS

Prospective descriptive study involving 122 patients with CLBP recruited from the PM&R department of the Ibn Rochd university hospital in Casablanca, who underwent a podoscopic assessment using a podoscope with tangential lighting and a pedobarograph, followed by a navicular drop test to assess overpronation of the foot. Foot function was classified as normal, pronated or supinated using the center of pressure excursion index derived from dynamic measurements of foot pressure. Patients with specific low back pain and obese subjects were excluded from our study.

RESULTS

The average age was 36.5 years and 67% of the sample was female. The average height and weight were 164.5 cm and 78.3 kg respectively, with an average shoe size of 38.7. The neuro-orthopaedic examination revealed lumbar hyperlordosis in 17.21% of cases, decreased lumbar lordosis in 8.2%, anterior pelvic tilt in 14.75%, and a positive lumbar Lasègue sign in 10.65%, with a VAS (Visual Analog Score) > 4 in 66.4% of patients. Podoscopic examination revealed a normal foot sole in 64.75% of patients, flat feet in 23.77% and 11.47% had hollow feet. On static evaluation, 31.14% had a peak plantar pressure in the forefoot, whereas dynamic analysis revealed pronated feet in 58.19%, normal feet in 34.44% and had 7.37% supinated feet. The sit-to-stand navicular drop test was > 1 cm in 67.21% of our patients. The VAS was < 4 in 70.5% of patients prescribed a custom-made foot orthosis to correct overpronation. Our study seems to confirm that disorders of foot function, particularly hyperpronation, are a significant biomechanical factor that may play a part in the etiopathogenesis of chronic low back pain.

CONCLUSION

This study illustrates the effectiveness of custom-made foot orthotics in improving low back pain. The identification of foot disorders should be integrated into the management of chronic low back pain, hence the importance of incorporating a systematic podoscopic assessment in CLBP patients.

Statement of Disclosures

None

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