Dear Editor,

Low back pain (LBP) is one of the common disabling conditions experienced by individuals through the world and the lifetime prevalence of LBP was reported about 84%. A type of LBP which occurs in the absence of an identifiable cause, is called non-specific LBP. Non-specific LBP is managed conservatively by physical therapy and in many cases by applying orthosis. A wide variety of orthotic designs, ranging from lumbosacral corsets to rigid thermoplastic thoracolumbosacral orthosis are used for controlling LBP.

During the present prospective study, 25 male patients with chronic non-specific chronic LBP were evaluated after five days trial of a thermoplastic lumbosacral orthosis with a posterior adjustable pad. Inclusion criteria were LBP for 12 months or longer; having a previous history of routine LBP treatments including rest, physical therapy, lumbosacral corset without complete pain relief; non-specific findings in previous para-clinical evaluation. Ethical approval of our research was given by the Ethics Committee of the Tabriz University of Medical Sciences.

The thermoplastic lumbosacral orthosis with a posterior adjustable pad, used in present study, had three parts (Figure 1). This adjustable pad could be moved and located in the desired lordotic positions regarding different tensions on the straps with the advantage include low weight and being comfortable. After adjusting the orthosis, patients were asked to have their usual activities such as walking and going up and down stairs for 30 minutes. Patients who did not have any problem during this 30 minutes, were asked to use the orthosis for the next five days during which they kept their usual daily activity and did not use any type of medication.

The severity of pain was measured using a modified visual analog scale (VAS) scoring method. A VAS is a 10 cm horizontal line ranged from no pain to severe pain. The patient marked the point that he felt representing his perception of current state. Patients’ LBP severity was assessed by using VAS at baseline (VAS-A) and 5 days (VAS-B) after using fitted lumbosacral orthosis. At the times of assessing VAS-A and VAS-B, a single standing lateral radiograph without orthosis was obtained from the lum

Fig. 1: Different parts of lumbosacral orthosis with adjustable posterior pad. (A) posterior part, anterior part or abdominal pad, and posterior adjustable lumbar pad. Posterior part, fabricated out of thermoplastic materials, composed the body of orthosis. In the thoracic part, the superior edge of orthosis rests on 24 mm below the inferior angle of the scapulæ bone. In the pelvic part, the inferior edge of orthosis rests on the sacrococcygeal junction in the midline. (B) Posterior adjustable lumbar pad of orthosis, the most important part, is connected to the posterior part with straps and located above the iliac crest. This adjustable pad may be moved and located in the desired lordotic positions regarding different tensions on the straps. (C) Anterior part of the orthosis, located between xiphoid process and pubic symphysis, is fabricated out of soft materials, on contrary to the posterior part, and fastened to the posterior part with velcro straps.
References


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