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PELVIC FLOOR DYSFUNCTION IN PATIENTS WITH PREGNANCY RELATED LOW BACK PAIN- THE ROLE OF THE PELVIC FLOOR MUSCLES

Hypothesis / aims of study

Pregnancy related low back and pelvic pain (PLBP) are common[1]. So far, the pathogenesis of PLBP is obscure. Several authors hypothesize that PLBP is related to deficient pelvic stability[2]. We assume that certain PLBP patients will compensate deficient pelvic stability by a higher level of activity in the pelvic floor muscles, since these muscles have the capability to stabilise the pelvic ring, as demonstrated in vitro[3]. A higher level of activity of the pelvic floor muscles has, however, a drawback. It can influence the appropriate activity patterns of these muscles during essential voluntary and reflex motor manoeuvres leading to pelvic floor dysfunction (PFD) as voiding dysfunctions, constipation and sexual problems. Indeed, frequent occurrence of impaired bladder control and voiding dysfunction has been demonstrated in patients with PLBP. Aim of this study is to assess the occurrence of PFD in PLBP patients and to demonstrate the level of activity of the pelvic floor muscles in PLBP patients.

Study design, materials and methods

A multi centre cross-sectional descriptive study was performed by 17 physical therapists, comprising 66 patients and 11 healthy volunteers, all female. Each subject underwent physical assessment, including intravaginal palpation, according to the PERFECT scheme and electromyographic (EMG) measurement and filled in the reliable and validated Urogenital Distress Inventory completed with questions about defecation, pregnancy, delivery and pain during sexual activities. Inclusion criteria for PLBP were the presence of low back and pelvic pain with the onset during pregnancy or short after delivery, a positive Posterior Pelvic Pain (PPP) test and a positive Active Straight Leg Raise (ASLR) test[2]. Both test are reliable, sensitive and specific to demonstrate PLBP. Differences in the presence of pelvic floor dysfunction between PLBP patients and healthy controls were tested using exact odds ratio tests in cross tables. Interaction and confounding by age and vaginal delivery were tested. Differences in the level of activity in the pelvic floor muscles were tested for significance with an independent samples T-test and a Mann Whitney test.

Results

PFD occurred in 52% of all PLBP patients, significantly more than in the healthy control group, especially urgency (OR = 9.1), stress incontinence (OR >4.4), urge incontinence (OR > 1.3), discomfort/ pain (OR = 14.8) and sexual complaints (OR = 45.8). Of these subjects 82% stated that the complaints started with low back pain and/or pelvic pain *prior* to PFD. The occurrence of PFD and PLBP was influenced by a confounding effect of age. More PFD was present in the older population (30-40 years old). In PLBP patients a significantly increased activity of the pelvic floor muscles could be demonstrated with respect to healthy controls as well as a significantly shorter endurance contraction time of the pelvic floor at 50% of the MVC, less activity during coughing and increased activity during pushing, measured with intravaginal palpation and EMG.

Interpretation of results

The present study demonstrates an increased activity level of the pelvic floor muscles and loss of motor control in PLBP patients relative to healthy subjects. We assume that PLBP patients use this elevated activity to compensate for loss of pelvic stability. However, this continuously increased level of activity and loss of motor control of the pelvic floor muscles will influence the timely response for voiding as well as the appropriate activity pattern for reinforcement of closure pressure. This will explain the frequent occurrence of incontinence and voiding dysfunction in the PLBP population.

Concluding message

On the basis of this study we adopt the idea that in some patients the primary cause of PFD must be sought in changes in the locomotor system, since 82% of all PLBP patients state that prior to the PFD complaints low back and pelvic pain was present. Clinicians treating patients with PFD should widen their scope and be aware of the significant relation between PLBP and PFD. Both the ASLR test as the PPP test should be used during physical assessment to test the presence of PLBP in patients with low back and pelvic pain. If so, therapy should address both problems at the same time. After all, solitary treatment of PFD, ignoring a possible cause in the locomotor system is likely to fail.

References

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