

Brief Discussion on Non-operative Treatment for Nonspecific Low Back Pain with Pelvic Anteversion and Lumbar Curvature Increase

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Abstract: Basically, low back pain is a group of syndromes with lower back, lumbosacral and hip pain as the main symptoms, which is very common in clinic. Due to the change of modern lifestyle, more and more mental workers are working with great pressure. The long-term sedentary lifestyle adopted by people at ordinary times makes the incidence rate of such diseases have an increasing trend. Moreover, the wrong exercise pattern adopted by many fitness lovers also increases the risk of illness. Therefore, the disease has had a serious impact on people's work and quality of life. In view of this, through the discussion, this paper aims to provide some feasible reference opinions for patients who have non-specific low back pain with pelvic anteversion and lumbar curvature increase and related treatment institutions, further contributing some strength to improve the quality of life of patients.

Introduction

Basically, low back pain is a group of syndromes with lower back, lumbosacral and hip pain as the main symptoms, which is very common in clinic. The incidence rate of this disease in China is as high as 30%, and that of the middle-aged and elderly is as high as 70%. And it has become the primary occupational disease in many countries, seriously threatening human health and quality of life. In accordance with relevant studies, low back pain is the second most common clinical symptom after upper respiratory tract infection in the United States^[1]. Moreover, low back pain, which has a slow course of disease and is not accompanied by nerve root involvement and lumbar parenchymal lesions, is also called chronic nonspecific low back pain^[2]. It is not only a common disease in sports medicine and clinical practice, but also lacks effective diagnostic methods and corresponding treatment methods. Relatively speaking, the course of postural dysfunction symptoms of chronic non-specific low back pain is relatively short, while the less severe compensatory will mostly evolve into the "Pelvic Anteversion and Lumbar Curvature Increase" type of disease. Generally, the pelvic anteversion is a common undesirable body shape, which means that the pelvis is not in the neutral position, but has excessive anteversion, accompanied by obvious typical characteristics of excessive lumbar curve, lower abdomen bulge as well as posterior buttock tilt. Due to the change of modern lifestyle, more and more mental workers are working with great pressure. The long-term sedentary lifestyle adopted by people at ordinary times makes the incidence rate of such diseases have an increasing trend. Moreover, the wrong exercise pattern adopted by many fitness lovers also increases the risk of illness. Therefore, the disease has had a serious impact on people's work and quality of life. At the same time, chronic nonspecific low back pain with pelvic anteversion and lumbar curvature increase in compensatory period may progress to more serious diseases such as lumbar disc herniation and lumbar spondylolisthesis if early intervention and related treatment are not carried out in time^[3]. Consequently, it is very important to master its influencing factors and treatment methods.

Analysis of Lumbosacral Structural Characteristics and Influencing Factors of Patients with Nonspecific Low Back Pain

Among the influencing factors related to low back pain, people always think that the biomechanical changes of lumbosacral structure are an important reason, because the biomechanics of lumbar spine is directly related to lumbosacral structure. However, at present, there is still much debate on whether there is an inevitable connection between lumbosacral structural changes and low back pain. Meanwhile, the conclusion of some reports at home and abroad on whether there is an inevitable connection between the physiological lordosis of lumbar spine and low back pain is also inconsistent. For example, the research by Troyanovich^[4] et al mainly demonstrated that there was no inevitable correlation between the change of lumbar lordosis degree and lumbago symptoms in lumbago patients. However, through a comparative study of 539 patients with low back pain and 476 controls, Jin Baijun^[5] et al found that large sacrum inclination and lumbar anterior convexity were correlated with the incidence of low back pain. Therefore, he thought that this may be one of the anatomical bases for low back pain. Furthermore, Jack-son and Roger P^[6] et al found the significant differences in lumbosacral structures between the two groups of research subjects by measuring and comparing 100 patients with nonspecific low back pain and 100 healthy research subjects. Consequently, they believed that this kind of difference needed to be reflected in specific clinical treatment and rehabilitation. Therefore, there were still great differences in the treatment of this disease. Also, the research of Lagrone and Peterson et al also believed that effective correction of lumbar and dorsal deformities was needed in clinical treatment or rehabilitation, otherwise, the symptoms of lumbago of patients could not be effectively improved. In addition, Wang Minjia^[7] et al found the commonness of pelvic roll in nonspecific low back pain patients by screening and comparing 71 nonspecific low back pain patients and 29 healthy people without low back pain, and the index could be used for clinical diagnosis and efficacy evaluation. However, Troyanovich^[4] et al believed that there was no inevitable correlation between lumbago and the change of lumbar lordosis angle. Consequently, there was no need to interfere with the structure of waist and back during the treatment.

Although there are still some discussions and controversies about whether the degree of lumbar lordosis is related to factors such as age and gender, there is still no final conclusion. Through experiments, Wang Minjia^[7] et al concluded that rehabilitation training should be targeted for patients with nonspecific low back pain of different ages, genders and symptoms. Additionally, many scholars believed that there was a certain correlation between the characteristics of some sports and lumbar lordosis. For instance, Wang Wei^[8] believed that due to long-term special training, dance shoes worn by sports dance students were high heels between 7.5 cm and 8.5 cm. In the process of growth and development, these students went to technical secondary schools to learn specialized courses. And in the daily training classes, they all wore dance shoes for the training movements, most of which are mainly walking, running, jumping and rotating. Therefore, the long-term training may cause the pelvis to lean forward. Liu Weili^[9] proposed that the dancers' pelvis would have risks of pelvic anteversion and retroversion as well as pelvic tilting, which reminded dancers to strengthen the core control training of pelvis and pay attention to the balanced development of muscles. Meanwhile, Wang Minjia et al^[10] also confirmed through experiments that core stability exercise including stretching training for 6 weeks was not only an effective means to improve the symptoms and functions of young patients with chronic nonspecific low back pain, but also could significantly improve the degree of lumbar spine straightening and pelvic tilting.

Commonly Used Non-operative Treatment

Basically, the non-operative treatment for nonspecific low back pain with pelvic anteversion and lumbar curvature increase has been studied extensively at home and abroad. For example, Ye Yongzhi^[11] et al demonstrated that abdominal acupuncture therapy could effectively relieve pain symptoms and improve lumbar and dorsal functions. In view of the imbalance of muscle strength in nonspecific low back pain with "Pelvic Anteversion and Lumbar Curvature increase", relaxing muscles controlling pelvic anteversion, such as erector spinae and iliopsoas muscle, and strengthening muscles controlling pelvic retroversion, such as abdominal muscles, gluteus muscles

and hamstring muscles, could not only effectively improve the balance between muscle strength and muscle tension, but also could help maintain good posture and lumbar stability as well as reduce the risk of disease re-injury. By randomly dividing 80 children with cerebral palsy accompanied by pelvic anteversion into 50 treatment groups and 30 control groups, Zhao Na^[12] et al confirmed that strengthening hamstring muscle was of great significance for correcting pelvic anteversion and stabilizing pelvis. And Li Qiaoling^[13] et al pointed out that Tai Chi was helpful to improve the problem of pelvic anteversion. Moreover, through experiments, the author also proved that the movement of Kaihezhuang was the movement with the largest change in pelvic angle among the three movements of the Baoqiuzhuang, the Kaihezhuang as well as the Yunshou, which was conducive to increasing pelvic flexibility. Moreover, this movement would have obvious effect on improving tension pelvic anteversion. Zhou Yayuan^[14] et al demonstrated that compared with the ordinary pain point pressing method, the posture relaxation method had more obvious effects on relaxing iliopsoas muscles and improving pelvic anteversion. Consequently, postural relaxation method is a better method to treat pelvic anteversion at present. At the same time, because this treatment method has the characteristics of low cost, easy operation and good effect, this paper believes that postural relaxation method will be the first choice for clinical treatment of pelvic anteversion.

Summary

There is still much debate on whether there is an inevitable connection between lumbosacral structural changes and low back pain. Meanwhile, the conclusion of some reports at home and abroad on whether there is an inevitable connection between the physiological lordosis of lumbar spine and low back pain is also inconsistent. This is a problem that needs to be constantly demonstrated through experiments and practice. I hope everyone can pay attention to the abnormal position of the pelvis. We summarized on Non-operative Treatment for Nonspecific Low Back Pain with Pelvic Anteversion and Lumbar Curvature Increase, hoping to provide some reference for everyone.

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