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Case Report Open Access

The Effect of Spinal Arte Care (TM) Manipulation Techniques in a Case of Adult Idiopathic Scoliosis

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Abstract

This study describes the effectiveness of Spinal Arte Care™ scoliosis protocol (RSRS) with spinal manipulation and rehabilitation exercises in a case of adult idiopathic scoliosis. This case was 21 year-old mesomorphic male came to clinic with thoracic-lumbar musculoskeletal pain. After clinical examination and radiographic study, patient diagnosed with thoracic scoliosis having Cobb's angle 19.1° with left side concavity with muscles shortening and right side convexity with muscles lengthening was measured. Spinal Arte Care™ scoliosis protocol (RSRS) with spinal manipulation and rehabilitation exercises were considered as a primary interventional procedure for treatment of scoliosis. By the end of one month interventional procedure, radiograph shows 4.8° reduction of scoliotic curvature, asymptomatic and good body conditioning.

Keywords: Adult idiopathic scoliosis; Manual therapy; RSRS protocol; Exercises

Introduction

Scoliosis has been exit around for thousands of years, among people of every culture and country. Geometrically scoliosis is a 3 dimensional deviation with lateral curvature of spine i.e., scoliotic curves with respect to the global frontal, saggital and transverse planes while examination of a scoliotic patient, a therapist must examine the patient in 360° in all three angles. Scoliosis is defined as "a lateral curvature of the spine occurring at or near puberty, diagnosed by the presence of a curvature greater than 10° measured by a Cobb method angle on a standing anteroposterior (AP) plain radiograph" [1,2]. Scoliosis is called idiopathic when there is no exact known cause. Idiopathic scoliosis is categorised in three age groups including infantile (0–3 years of age), juvenile (3–9 years of age), and adolescent (10–18 years of age) [3]. When skeletal maturity is reached, the patient is considered to have a diagnosis of adult idiopathic scoliosis [4]. The severity of the scoliosis is measured by the extent of spinal curvature and by the angle of the trunk rotation. The Cobb method is the standard technique for measurement of spinal curvature and spinal deformities from the spine x-ray [5]. When Cobb angle is >10 degrees, then it is considered scoliotic curve. Most common cause of scoliosis is idiopathic among all other causes of scoliosis i.e., neuromuscular, congenital, degenerative and traumatic. Idiopathic scoliosis results in pain and reduced patient's quality of life. To treat idiopathic scoliosis conservatively, physiotherapist should focus on observation for scoliosis curvature progression, physical therapy along with spinal rehabilitation exercises, symptomatic pharmacological treatment, bracing and finally surgery. The primary aim of Physiotherapist for scoliosis should be proper 360° examination of the patient because early detection not only helps in management but for better prognosis of the condition and significant pain management. As soon as, we detect the scoliosis better we can manage. The purpose of the publication is to present the history of patient with adult idiopathic scoliosis, treated conservatively both with non-pharmacological pain management, and Spinal Arte care treatment protocol RSRS with spinal manipulation and rehabilitation exercises.

Case Presentation

This case is a 5'8" (172.72 cm), 22-years-old mesomorphic male who presented with thoracic and lumbar musculoskeletal pain. On radiological examination in AP view orthopeadic surgeon made diagnosis of dorsal spine scoliosis. In past, the patient had no pain history. Patient refused to any history of fall or trauma to spine. Recently, pain appears during travelling especially when he did prolong travelling. Orthopaedic surgeon prescribed NSAIDS, pregabalin with nor tryptomer and calcium supplements. But patient did not get any relief. Patient came to in our scoliosis clinic, where we examined him fully with AP radiograph & found thoracic scoliosis with Cobb's angle 19.1° with right side convexity and left side concavity along with spinal muscles tightness. He had no medical problems. Cardiovascular and neurological assessments were intact. Diagnostic study of blood; Erythrocyte sedimentation rate, complete blood count and Creatinin reactive protein, all hematological tests were found within normal limits. On clinical examination, no sign and symptoms of any systemic symptoms or any vital deficit. Current radiograph of the patient has tremendous results with 4.8° reduction in Cobb angle and now present angle is 14.3° (Figure 1).

Treatment

In this case, the evidence of scoliosis or unstable curvature was 19.1° at dorsal spine. If there is no treatment or lack of specific scoliosis treatment, chances of increase Cobb's angle were more as well as it may leads to the painful symptoms related to spine. In this case we followed SPINAL ARTE CARE™ scoliosis protocol (RSRS). The main interventional protocol was release of all trigger points and stretching of tight muscles, then realignment of curvature with the help of spinal manipulation techniques and lengthening of thoracic spine with the help of yoga wheel after that strengthening of weak muscles. The first step includes, initially release of all left side tight muscles and trigger points. Second step includes; stretching of all left side (concave side) spinal tight muscles. Third step started with realignment which includes de-rotation with the help of diversified spinal manipulation techniques as well as yoga wheel. Fourth step include strengthening of

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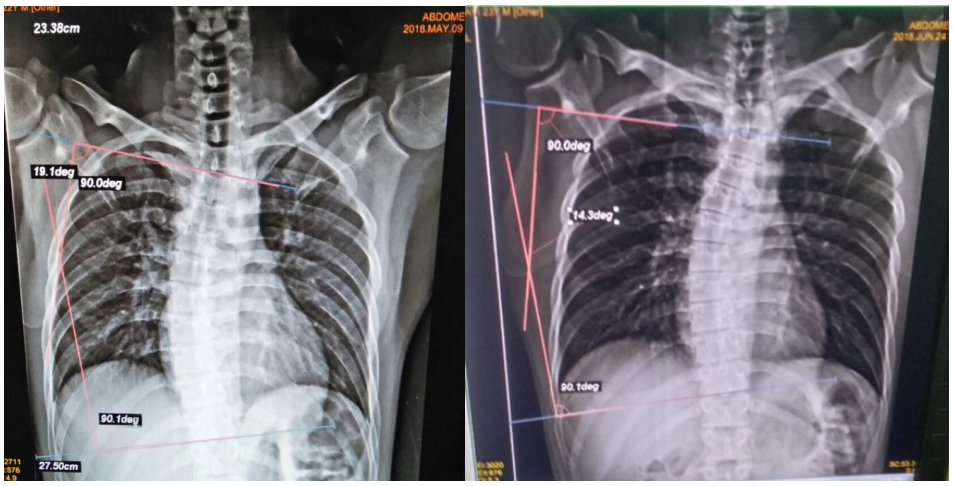

Figure 1: Pre-treatment (Cobb's angle 19.1°) Post-treatment (Cobb's angle 14.3°).

weaken muscles of right convex side. During this treatment protocol, we prescribed some spinal exercises to patient as a home exercise regime programme and taught some ergonomic self-corrected posture for standing, sitting & lying position. After following one month Spinal Arte Care Scoliosis Protocol; new radiographs were taken, that demonstrates 4.8° reduction of total scoliotic curvature. At this time, the patient is pain free, asymptomatic and medicine free also.

Discussion

In scoliosis, proper examination and early detection of scoliotic curvature are the key factors in diagnosis as well as it will help in prognosis also very less evidence present which can claim conservative treatment can treat scoliosis completely. In scoliosis, conservative treatment consider as a first line of management. The old concepts to conservatively treat the scoliosis include schroth method, yoga, Pilates and use of spinal brace. In some cases, the scoliosis may be associated with visual postural deformity and later it may become a psychological issue. Release of soft tissues, muscles and trigger points helps in pain management as well as relax the tight musculature. Release tight trigger point knots in their fascia and rebuild their correct proprioception alignment, which further helps in interventional protocol. Stretching of tight tissue before spinal manipulation which includes realignment and de rotation of the subluxed vertebrae. Many studies support effectiveness of spinal manipulation if given with proper hands [6]. In this case study, Spinal Arte Care protocol is very effective because before correction and realignment of any subluxed vertebrae; release of soft tissue and other tight muscles not only resolve the trigger points but make the patient pain free and give confidence. Once release of muscles done, it's always easy to realign the scoliotic curve. This protocol is less aggressive, smooth and save the spine originality. Lengthening of spine always helps in scoliosis. It is always matter of discussion as scoliosis cases are diagnosed very late. Sometimes, in back pain and neck pain cases, the primary cause may be scoliosis.

Conclusion

Spinal manipulation with RSRS protocol and adjunctive therapies [7] with spinal exercises, yoga and Pilates can be useful non-surgical treatment for treating scoliosis with associated musculoskeletal pain, and cosmetic appearances. There is little evidence for recommendation of exercises that is specific to idiopathic scoliosis [8]. It is important to consider differential diagnosis related to back pain in children and adolescents. If there are any systemic symptoms, neurological pain, night pain, activity limitations, and additional studies then co-management with a specialist should be administered [9]. Recent clinical studies shows that due to late start of treatment and patient's with family history, with use of appropriate conservative management and cooperation from patient ; can leads to good results in idiopathic scoliosis [10].

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