Effectiveness of Osteopathic Treatment Approach For A Patient with Low Back Pain- "A Case Study"

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Abstract-

Objective: - *To the purpose of this case study is to present osteopathic management of a patient with chronic low back pain.*

Case report: - *We reported A 25 year's old man consulted to me for a pain in the low back area (L5-S1) with radiation down the antero-lateral aspect of right leg, the symptoms started after heavy weight lift to the last year. Examination showed a mild disc bulging L4-L5 area. We treated with patient with Osteopathic treatment to the lumbar area and pelvis gave only temporary relief for pain.*

Intervention and outcome: - *A year later a MRI was done in lumbar area and found mild disc bulging L4-L5 area. Cranial, visceral and spinal manipulation[HVLA] osteopathic treatment plan after this treatment, the patient reported that was pain free and could return to normal activities of daily living with gave him to instruction for precaution of low back area.*

Conclusion:- *The clinical progress of this case suggest that craniosacral therapy and visceral therapy to decrease low back symptoms. And spinal manipulation therapy [HVLA] to also decrease the low back pain.*

Keywords- craniosacral therapy, visceral therapy, high velocity low amplitude (osteopathic treatment), chronic low back pain.

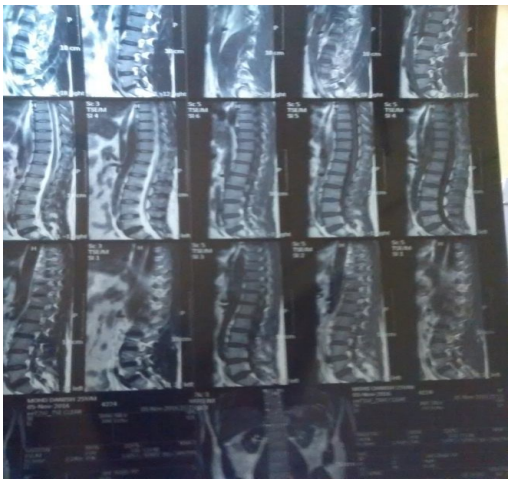
I. INTRODUCTION

Chronic low back pain is a common problem and its prevalence has increase to around 10% in the last decade.[1, 2] in about 10% of the patients, the primary pain generator is not found in the spine or directly related area.[3] Low back pain is a problem faced by individuals 3 quite often, particularly in developed societies. It negatively affects the quality of life and physical activity levels while increasing the health-related costs and leading to loss of labour .[4-6] Chronic nonspecific low back pain comprises 85% 7 of all back pain, but indicates no problem that would 8 be the cause of pain, such as spinal pathology, radicular syndrome, infection or tumour. [7,8] There are many treatment options for coping with chronic nonspecific low back pain, such as manual therapy techniques, including exercise methods, cognitive therapy training, back schools, massage, manipulation and mobilization, taping[9] and physiotherapy modalities[10]. It was shown that manual therapy, which is among the most used methods in recent years, is effective in terms of cost and recovery [11]. Osteopathic manual therapy (OMT) is a treatment option that investigates the cause of the problem based on the relationship between structure and function. It strives to normalize the biomechanical and somatic dysfunctions and includes various manual treatment methods [12]. Craniomandibular disorders may affect 10% to 40% of the general population within their lifetime and associations to other disorders, such as postural disorders, lumbosacral pain, cervical spine disorders and general musculoskeletal symptoms have been found. [13-16] Fink et al found that simulated dysfunction of the craniomandibular system caused functional abnormalities in the sacro-iliac joint.[17] Fischer et al also found a strong correlation of craniomandibular dysfunction in patients with complex regional pain syndrome restricting hip motion.[16] Visceral techniques comprise an important part of osteopathic methods. In the literature, visceral techniques have generally been applied exclusively or for visceral problems [18]. However, there are no studies on the use of visceral techniques on lower back pain, except for one study that explains the study protocol, and the results of that study have not been published [19]. Visceral problems arising from local fascial limitations, referred pain and central sensitization may cause low back pain[19]. The visceral fascial mobility could affect the somatic tissue mobility close to the organ or the somatic tissue with a corresponding spinal innervations with the dysfunctional viscera.[19-22] Following this line of thought, the state of abdominal and pelvic viscera could interfere with distant body segment mobility because visceral innervations comes from the thoracic and lumbar region through the sympathetic nervous system. Visceral manipulation (OVM) is a manual technique that aims to restore mechanical, vascular, and neurologic visceral function.[19] Studies performed by Bove and Chapelle et al[23],

McSweeney et al[24], and Tozzi et al[25] reported a direct and positive repercussion in the visceral mobility, altering its nociceptive input to the spine. Few case reports describe the treatment of a patient with low back pain receiving benefit from craniosacral therapy[19]. Many studies have shown SMT to be highly effective in the treatment of adult patients with mechanical LBP.[26,27,28] To purpose of this study craniosacral, visceral and HVLA osteopathic treatment were very effective for the treatment of low back pain to the adult patients.

II. CASE DESCRIPTION

A patient was 25 years old man came with LBP in lumbosacral region. The pain presented bilaterally, but mostly on the left side. The low back pain radiated down of upper left leg when walking for long periods of time. The symptoms started directly after a incident a year before consultation. The patient carry a heavy weight and sudden feel pain on the lower back region. A radiological examination was conducted in that year but there is no evidence of any pars fracture, after that we conducted MRI scan, In that report L4-L5, L5-S1was mild disc bulging and some of the L5-S1 foramen space reducing. The low back pain was aggravated by sitting, standing, lying down, and walking bending over and cycling. Coughing and sneezing had no influence over the symptoms. During the first visits physical examination visual inspection of the posture revealed a lower right rim of the Ilium compared to the left side. Active range of motion of the lumbar spine was restricted in extension and restricted with pain in both forward flexion and right lateral flexion. SLR gave pain in the low back on the left at 50 degree and tension in the medial right hamstring at 70 degree. Kemp's test was positive on the left palpation of the spine was performed with



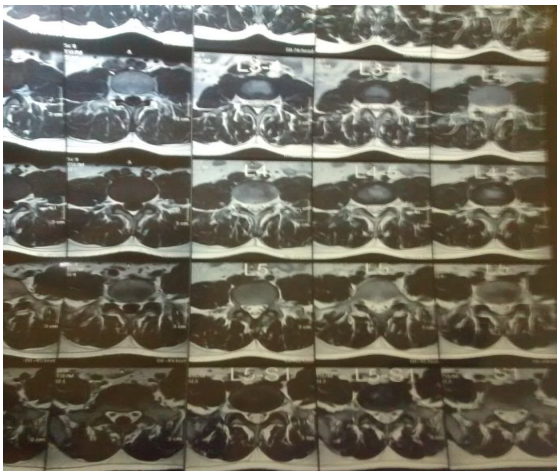


Fig- 2.1 HVLA (Lumbar roll techniques)

Fig 2.2 Craniosacral Therapy

Fig 2.3 Visceral manipulation

patient seated. Static palpation was performed with standing, sitting and prone. There was restricted motion at T3-T8 bilaterally at L4-L5, L5-S1. There was hyper tonicity of erector spine muscle in lumbar region. The S.I. dysfunction was further orthopaedic and neurological examination was without abnormality. The patient was treated with craniosacral therapy, visceral manipulation, and HVLA thrust techniques. we can start the 10-20 session of craniosacral therapy and 1-3 session/ week for several weeks. After this treatment we gave visceral manipulation to break the adhesion of restricted fascia of visceral organ, a total of 10 sessions for 5 weeks at 2 session/ weeks. And after all treatment HVLA technique [lumbar roll techniques [T10-L5] had used for 1 session /week total 1-3 session was sufficient for control pain and 80-90 percent temporary relief. After all the treatment procedure evaluation were repeated on the sixth week.

III. OUTCOME

pre-treatment assessment was 1 week before the 1st session of treatment and follow-up was 1 week after the last session of treatment. Pain intensity was evaluated through visual analogue pain scale of 10 points. Where the participants choose a number from 0 to10 (0 equal to no pain at all and 10 to unbearable pain). Total number of visits range from ranged from 20 visits. Patient successfully returned to successfully returned to their respective ADL.

IV. DISCUSSION

The source of LBP is often elusive but can commitant pain at the other site in musculoskeletal system is common[29]. Wiesinger et al[30] found as association of spinal pain with sign and symptoms of musculoskeletal disorders in the jaw region. In the follow up study we found there is a strong co-morbidity between the two[31]. Baldini et al [32]summarized in their overview there is connection between craniomandibular and craniocervical dysfunction and posture. In this case there was a major improvement in low back pain after performing cranial technique (specially focused on sphenoidal treaments). The sphenoid bone is not directly part of temporomandibular apparatus but it is an attachment point of temporary muscle and pterygoidens lateralis muscle[33]. The temporomandibular apparatus plays a role in postural control[34]. The extact mechanism is unclear. One possibility that it passes through the fascial system since the passively distributes tension in body muscle Because the jaw relationship is important for feeding to survive, the muscles and joints will accommodate occlusion and will compensate body posture to allow this to happen[35]. Sakaguchi et al [36] found that the reverse was also possible: changing body posture affects mandibular function and Sanders et al[37] found that a history of LBP increases the risk of temporomandibular disorders. Visceral techniques used in OMT approaches to peripheral spinal and control nociceptors stimulation that is neurophysiological effect hence an effect on the related segment through somatovisceral effect. Studies have shown that visceral techniques applied to healthy individuals can reduce the pain threshold compare to placebo application[38]. There were no studies available on the use of visceral techniques on individuals with chronic low back pain. The study proved that the muscles between the thoracic vertebrae and lumbosacral joint contacted as a result of stimulation of internal organ[39].

Lumbar manipulation has been shown to be beneficial for decreasing pain, increasing lumbar mobility, improving lumbar paraspinal muscle activity, and increasing maximum voluntary contraction[40]. In our study may have reduced that spasm of related segments and regulated the peripheral of central pathways through visceral somatic reflex are thus providing the improvement. Osteopathy manual therapy [OMT] could be an effective treatment lumbar manipulation was a safe treatment method for LBP as no adverse effect was reported.

V. CONCLUSION

The clinical progress of this case suggests that for LBP patient craniosacral therapy, visceral, and HVLA osteopathic techniques may be helpful in patients with low back symptoms.

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