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The Role of the Physiotherapy in Treatment and Preventation of Sacroilic Joint Dysfunction

Sanal.Souliman[1]*, Abeer Suliman[2], Afaf. Suliman[3], Zena Ahameed[1] and Dalal Omer[1]

Corresponding author: Sana Souliman, Department of Physiotherapy, Faculty of Medical Technology, University of Tobruk, Tobruk, Libya

Abstract

This study is aimed to investigates sacroiliac joint (SIJ) dysfunction to understand the treatment and the prevention as it is said (prevention is better than cure).Also, it is to recognize causes that increase SIJ pain, to protect and to educate people against SIJ.In addition, it is to study symptoms and treatment of SIJ dysfunction, especially treatment by physiotherapythat involve electrotherapy, exercise therapy, heat therapy, cold therapyandetc, to reduce painimprove circulation, improve muscles power, increase rang of motion, strength muscles and ligaments around the SIJ and advice patient or normal person to improve lifestyle activity where lifestyle activity or dealyroutin consider main cause thatlead to SIJ dysfunction.For this reason,wecan use the physiotherapy to the prevention against sacroiliac joint (SIJ) dysfunction. Additionally, this study performed on only one case diagnosed with sacroiliac joint (SIJ) dysfunction who observed in Tobruk\medical Center in 2018. The study showed that sacroiliac joint dysfunction has similar signs and symptoms with low back pain that make physiotherapist and ortopedics to confuse between them in the diagnosis. The SIJ dysfunction wasdiagnosed by manual examination and radiology (X-ray, Magnetic resonance imaging and omputed tomography).But sometimes, Sacroiliac joint dysfunction diagnosed as low back pain, especially in ToprukMedical Center because there is no advanceintechnology and in devices examination like therapeutic intra-articular or periticular injection or nerve blocks. For these reasons, just one case had been found in TobrukMedical Center during the study period. This study showed the SIJ dysfunction does not related to age, but it may be affected by lifestyle activity or gender where females were more commonly affected with SIJ dysfunctin.

Keywords:*SIJ; dysfunction; Topruk; Preventation;Treatment;Physiotherapy..*

Abbreviattions

SIJ: Sacroiliac joint dysfunction
LBP:Low back pain
P1: patient
TENS :Transcutaneous nerve stimulators

INTRODUCTION

The human back is a highly complicated structure. The verte- brae, intervertebral discs, apophyseal joints, sacroiliac joints, the bones of the pelvis, the ribs, the spinal cord and its membranes, spinal nerves with their branches, the muscles and their apo- neuroses and tendons, fascias, blood vessels, connective tissue, subcutaneous tissue, ligaments, and the skin are the principal components of this part of the human body has two sacroiliac joints, one on the left and one on the right that often match each other but are highly variable from person to person (Vleeming, A et al 2012).

The sacroiliac joint within these structures and it surrounded with important structure, when SIJ have problem may cause pain for it or near structures (Solonen, K. A. 1957).

The sacroiliac joint could be a possible source of pain but the frequency of its responsibility is not really known, they were used sacroiliac anesthetic blocks, the gold standard for diagnosis, to determine this frequency the anaesthetics was a relief pain (Maigne et al 2005). The sacroiliac (SI) joint dysfunction lead to low back pain (Fortin, J. D. 1993).

The most symptoms common is a pain bottom of the back and often confuse between them and low back pain, they are two different cases but have the same symptoms. The pelvic girdle pain and may extend to thigh and leg until foot (Steven G. Reviewed 2017). Pain with long sitting or standing (sturesson et al 1989; sturesson et al 2000).

Women are more susceptible due to the structural difference of the pelvic area in women because the fact that God has the advantage of pregnancy for men, also because the weakness of the bone structure between them and the disorder of hormones after menopause may increase exposure to osteoporosis in women (Cohen, S. P. 2018).

Accident as a result of sudden fall or impact, may cause damage or breakage in the joint area and carry heavy objects suddenly (Jenny Hills ,.web)

Athletes: It is the most widespread among athletes due to excessive physical activity and some sports that has suddenly motion may cause stress of the muscles or joint as weightlifting (Fortin, J. D. 1993).
Work place for example, the teacher has long time in the standing position, which lead to the pressure on his/her joint, also the student is always in the sitting position, this may cause pressure on his/her joint, especially if it is position of sitting is wrong or the seat is not suitable.Medically, all these reasons enhance the likelihood of infection (Jenny Hills. 2017).

Thepreventationinclude avoiding all aboverreasons with the exercise periodically to strengthen the muscles of the abdomen, low back, pelvis, legs and follow a healthy diet and a healthy lifestyle (Douglas I. Allen, DO , 2018).
Treatmentbymedication: Analgesics, anti inflammatory and surgery but it is very rare (Giles, L. 2009; Douglas I. Allen, DO , 2018).

Physiotherapy: bed rest is very important in acute phase. Exercisetheraby to relief or less sacroiliac joint pain, there some exercises can be very helpful (Jenny Hills. 2017), but have to do with physiotherapist, the patients can not do it from his opinion. Electrotherapy by transcutaneous nerve stimulators (TENS): for the relief of chronic pain. Traction is effective in separating the vertebrae which may be necessary to relieve pressure on a disc(Dontigny, R. L. 1979) .Massage for low back by oil espicially almond oil can help to relife pain(Jenny Hills. 2017).

Materials and Methods

This study was carried out during the period between January to April 2018. In this research, one case has been found in the Tobruk Medical Centre and recorded for the physical assessment as shown in a Table (1). The diagnosis was performed by manual examination and radiology (X-ray and CT scan) as in Figure (1) and (2). The physiotherapy department in Tobruk Medical Center provides care including medications supply, assessment of pain relief, recovery muscles, rehabilitation, and advices about managing problems. Services include exercise therapy, electrotherapy, hot therapy, ice therapy and others. However, the physiotherapy department still requires more progress and development.

The patient 's therapeutic program includes medications like (Mobitil / İndomethacin / Thiomed).Physical Therapy was exercisetherapy by strengthen and stretching muscles for 10 minutes / 3 times in week.Ultrasound therapy was for 10 minutes / 3 times in week. Electrothrapy by Transcutaneous Nerve Stimulators (TENS) was for 10 minutes / 3 times in week.

Figure1: Sacroiliac joint region and vertebral column by Computed Tomography scanfor patient (p1)

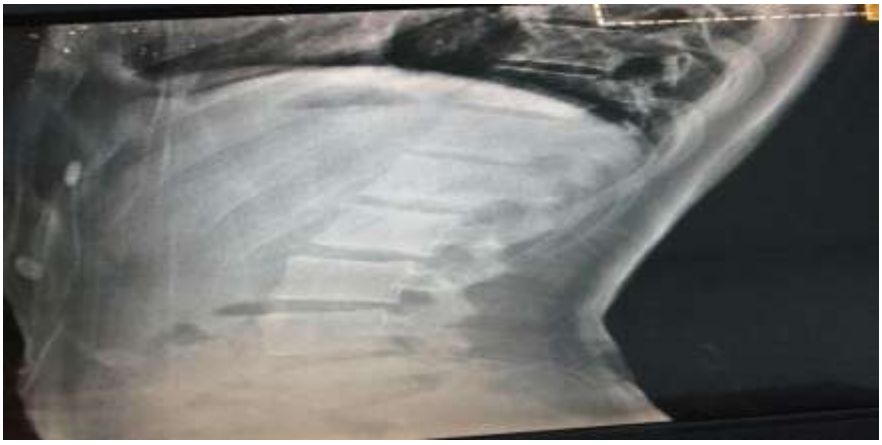

Figure 2: Sacroiliac joint regionradiographic image by X-rayfor patient (p1).

1. Results and Discussion

This research was a study about sacroiliac joint dysfunction according to causes, symptoms, preventation and treatment or relief pain. Only, one case was found in the Tobruk Medical Centre during the study period as in a Table (1). The patient had sacroiliac joint dysfunction.Hehad pain in the muscles of the lower limbs with his activity,andhe had injury sudden holding of heavy objects. Also, he felt worse when sitting position for long time. He was a student and he felt better afterphysiotherpyby (Exercise, Ultrasound Therapy And Tens) for 6 Weeks in Tobruk medical centre with Medication by (Mobitil / İndomethacine /Thiomed.

This studyshowedthe sacroilac joint dysfunction patient has symptoms are similar to low back pain.For this reason, it is difficult to diagnose and deffer between them. Thesacroilac joint dysfunction is a primary source for low back pain because all structures of back for exapmlemuscles, nerves, ligaments and other are affacted with sacroiliac joint if it has any proplem vice versa (Fortin, J.

D., 1993). For this reasons, only one case (P1) was reordedasScroiliac joint dysfunction. Also the SIJs' primary responsibility is to transfer the weight of the upper body to the lower extremities as seen in Table (1) when he was sitting for long time so that he had worse pain.

Most common causes of SIJs pain have noted with heavy weight lifting is like pregnant, obesity and athletes as with cobducted study Fortin, J. D.., (1993) and (Jenny Hills. 2017)that agreement with this study where P1 injured as result to sudden holding of heavy objects.

The Sacroiliac joint pain do not combine with age, it can infects young and old age for instance, the case used in this studywhonoted with a P1 in a Table (1) was 19 years ago.

The sacroiliac joint dysfunction are most common in women more than man because women have a lot of difference in pelvic girdle region as result for pregnancy in female as in conducted study for Cohen, S. P. (2018).

Table (1) implied that patienr (P1) has improving with physiotherapy, but physiotherapy that involve exercise should be do with physiotherapist because some exercises is very denger may increase pain or lead to complications. The exerscises is very useful to strength muscles and prevent contraction to protect muscles (Dontigny, R. L. 1979). In addition to use some medications to relif pain as Analgesics as with a P1 in a Table (1) it helps him to reduce pain.

Maigne et al., (2005) reported that the sacroiliac joint could be a possible source of pain and the anesthetic was a relief pain andGiles, L. (2009)implied that analgesics and anti-infalmmatory were to decrease pain. This study is agree with them. The study found that patient had symptoms were samilar to low back pain and analgesics may essential for relief pain.

This study revealed many of facts are agreement or defferent with other studies. As mentioned in last part, Tobruk Medical Centre recorded only one case (P1) and other cases record as low back pain as result the similar symptomes between the sacroliac joint dysfunction and low back pain where this result was agreement with other studies.

Table .(1). phycial Assessment of Patient.

Name : P1/male	**Date :10/4/2018**	**Age: 19**
CHIEF COMPLAINT: What orthopaedic problem brings you here today? Pain in the muscles of the lower limbs which interferes with his activity		
HISTORY OF PRESENT INJURY: How did it happen? Sudden holding of heavy objects		
WORK RELATED? No		
HAS IT GOTTEN WORSE RECENTLY?		

No
WHAT MAKES IT BETTER Analgesics
WHAT MAKES IT WORSE? Sitting position for long time
ANY PREVIOUS TREATMENTS? Medication(mobitil/ indomethacine/thiomed) Physical therapy IN TMC (exercise, Ultrasound therapy and TENS) for 6 weeks .
PAST MEDICAL HISTORY/ILLNESSES: Any serious medical problems? (Diabetes, rheumatoid arthritis, high blood pressure, heart attacks, infections, etc.) NO history of chronic illness
SURGERIES: (Previous surgery? When & What type of surgery?) appendectomy
MEDICATIONS: List all medications you take routinely. Name of medicine and strength. How many times a day. NO
ALLERGIES: Are you allergic to any medications, foods, prep solutions, or materials? NO
FAMILY HISTORY: Any medical problems in your family, Mother? Or Father? NO
SOCIAL HISTORY: What kind of work do you do? Student
DO YOU PARTICIPATE IN ANY RECREATIONAL ACTIVITIES? ANY OTHER INTERESTS? NO
DO YOU SMOKE TOBACCO? If so, how much? NO
DO YOU DRINK ALCOHOL? If so, how much? NO

Conclusion

The sacroilac joint dysfunction symptoms are similar to low back pain. One case was only monitored during the period of the study in Tobruk Medical Center.This research provides many advices: should avoid any exercises or sports that cause extra pressure on the sacroiliac joints or need heavy weight lifting, and shoud be carfully use dietary program to avoid obesity.Womenshould do smooth exercise during pregnancy to avoid extra pressure. Also,worker should avoid sitting in uncomfortable position for long time or use uncomfortable chair.

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