

The Role of the Physiotherapy in Treatment and Prevention of Sacroiliac Joint Dysfunction

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Abstract

This study is investigate sacroiliac joint (SIJ) dysfunction to know how to prevention as it is said (Prevention is better than cure) so, have to know causes that increase SIJ pain, to protect and try to educate people against SIJ pain, in addition to study symptoms and treatment SIJ especially by physiotherapy. Also involve study concerned with the assessment cases observed in the city of Tobruk. Sacroiliac joint dysfunction has similar signs and symptoms with low back pain that make physiotherapist and Orthopedic to confuse between them in the diagnosis, sometime Sacroiliac joint dysfunction is diagnosing as low back pain, especially in Tobruk because has not the development of technology and devices examination are like therapeutic intra-articular or periticular injection or nerve blocks can be used. For these reasons just one case had been found.

Keywords: SIJ; dysfunction; Tobruk; Prevention; Physiotherapy (keywords)

Abbreviations SIJ: Sacroiliac joint dysfunction LBP:Low back pain

P1: patient 1

TENS :Transcutaneous nerve stimulators

INTRODUCTION

The human back is a highly complicated structure. The vertebrae, 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 aponeuroses and tendons, fascias, blood vessels, connective tissue, subcutaneous tissue, ligaments, and the skin are the principal components of this part of the human body. 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 know. 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).

1.1.Symptoms

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

1.2. Causes and Prevention

1. 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. 2018).
2. 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)
3. 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).
4. Work place: For example, the teacher knows that the teacher has more time in the standing position, which lead to the pressure on this joint, also the student is always in the sitting position, this causes pressure on the joint, especially if it is position of sitting is wrong or the seat is not suitable and medically all these reasons increase the likelihood of infection (Jenny Hills. 2017).

To prevention should avoid all above 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 ,web).

1.3.Treatment

Medication: Analgesics, anti inflammatory and surgery but it is very rare (Giles, L. 2009; Douglas I. Allen, DO ,web). 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't do of 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 especially almond oil can help to relife pain(Jenny Hills. 2017).

2. MATERIALS AND METHODS

In Tobruk, and all patients that need physiotherapy were on the register in Medical Tobrukcentre. It provides daily care, including medications supply, assessment of pain relief, recovery muscles, rehabilitation, and advice about managing his problem and deal with it to improve or treat his problem. Services include exercise therapy, electrotherapy, hot therapy, ice therapy and other). However, this centre is has poor technology.

This study was carried out during the period between January and April 2018. In this research one case has been found in the Tobruk Medical Centre and record the physical assessment as show in a Table (1). And diagnosis by manual examination and radiology (X-ray and CT scan) as Figure (1) and (2). The patient 's therapeutic program was medication (Mobital / İndomethacin / Thiomed) Physical Therapy was Exercisetherapy by strengthen and stretching muscles 10 minutes / 3 times in week.Ultrasound therapy 10 minutes / 3 times in week. Electrothrapy by Transcutaneous Nerve Stimulators (TENS) 10 minutes / 3 times in week.



Figure (1) CT scan.



Figure (2) X-ray.

3. RESULTS AND DISCUSSION

In this research was study about sacroiliac joint dysfunction according to causes, symptoms, prevention and treatment or relief pain. In the Tobruk Medical Centre found only one case (P1) as in a Table (1) has sacroiliac joint dysfunction.

P1 has pain in the muscles of the lower limbs with his activity, he has injury sudden holding of heavy objects, he feels worse when sitting position for long time, he is student and he feel better after physiotherapy by (Exercise, Ultrasound Therapy And Tens) for 6 Weeks in Tobruk medical centre with Medication by (Mobital / Indomethacine /Thiomed

In this studies have noted the sacroiliac joint dysfunction patient has symptom are similar to low back pain for this reason, difficult to diagnosis and find defferent between them, sacroiliac joint dysfunction are primary source for low back pain because all structures of back for examle muscles, nerves, ligaments and other are affacted with sacroiliac joint if it has any proplem vice versa (Fortin, J. D., 1993). For this reasons are record in Tobruk only one case a (P1) as Scroiliac joint dysfunction. Also the SIJs primary responsibility is to transfer the weight of the upper body to the lower extremities as seen with a P1 in Table (1) when he sitting for long time lead to increase 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 aga, it can infects young and old age for example what noted with a P1 in a Table (1) where 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).

The P1 in a Table (1) have noted 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 complication. The exerscises is very useful to strength muscles and prevent contraction to protect (Dontigny, R. L. 1979). In addition to use some medication to relif pain as Analgesics as with a P1 in a Table (1) it help him to reduce pain.

Maigne et al., (2005) conducted studies were about the sacroiliac joint could be a possible source of pain and the anesthetic was a relief pain and Giles, L. (2009) studies were about analgesics and anti-infalmmatory to relife pain. This study is agreement with them where a P1 has symptoms are similar to low back pain or lead to low back pain and analgesics are relief pain.

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

Table 3.1. *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(mobitol/ 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 symptom are similar to low back pain as result one case in tobruk have record.

This research can conclude with this advice:

- Should avoid any exercises or sports that cause extra pressure on the sacroiliac joints or need heavy weight lifting.
- Should be careful about nutrition and avoid obesity.
- Women should do smooth exercise during pregnancy to avoid extra pressure on SJ
- Worker should avoid sitting in uncomfortable position for long time or use uncomfortable chair.

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ETHICS

Authors should address any ethical issues that may arise after the publication of this manuscript.

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المستخلص : تقوم هذه الدراسة بالتحقق من الخلل الوظيفي لمفصل العجزي الحركي لمعرفة كيفية الوقاية كما يُقال (الوقاية خير من العلاج) لذلك يجب أن تعرف الأسباب التي تزيد من آلام المفصل العجزي الحركي ، لحماية ومحاولة تنقيف الناس ضد آلام المفصل العجزي الحركي أيضا دراسة الأعراض وعلاج المفصل العجزي الحركي خصوصا من خلال العلاج الطبيعي.أيضاً هذه الدراسة تعنى بتقييم الحالات التي لوحظت في مدينة طبرق.خلل المفصل العجزي الحرقفي وألم أسفل الظهر لهم نفس الأعراض والعلامات وهذا مايجعل أخصائي العظام والمفاصل في الخلط بينهم في التشخيص وأحيانا خلل المفصل العجزي الحرقفي يشخص كا ألم أسفل الظهر , خاصة في مدينة طبرق لأنها لاتمتلك التكنولوجيا وأجهزة الفحص المتطورة مثل التشخيصية والعلاجية داخل المفصل أو حول المفصل أو كتل الأعصاب التي يمكن أن تستخدم.

الكلمات المفتاحية : الخلل الوظيفي لمفصل العجزي الحركي,طبرق,الوقاية,العلاج الطبيعي.