
PHYSIOTHERAPY MANAGEMENT FOR OSTEOARTHRITIS KNEE FOR GRADE II: A CASE REPORT

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Abstract

Introduction: Osteoarthritis Knee (OA) is the most common condition during that elderly the quality of life, and a previous study has found that the most widely recognized type of osteoarthritis influencing up to 25% of people over the age of 50 years with many progressing to knee replacement surgery. Current clinical practice guidelines recommend knee replacement surgery only after first-line and second-line management options have been exhausted. Such non-surgical management options include patient education, exercise therapy, weight management and advice about pharmacological management of symptoms. Osteoarthritis Knee is the most well-known kind of joint inflammation and portrays the degeneration of the joints. Whilst most experience moderately mellow manifestations, for one in ten individuals, their knee agony and joint solidness are incapacitating. OA Knee were two of the top 20 search terms in an analysis of the searches conducted of the Physiotherapy Evidence Database (PEDro).

Case Presentation: A 59 years male. He as the a ex-work officer residing in Magetan, East Java. Examinations that have been carried out on the patient found muscle stiffness and tenderness and pain in motion and positive findings were also found during a specific examination using the anterior drawer test and the Lachman test.

Management and Outcome: Mobilitation knee and technology modalities (Infrared and Ultrasound) could improve functional status, decreased the level and intensity of pain, and raise the quality of life among elderly man were the benefit of physiotherapy management for solving the knee problems.

Discussion: Several studies have revealed that the use of infrared, TENS, ultrasound modalities, Muligan's mobilization by adding muscle strengthening exercises quadriceps have a positive effect in reducing pain and stretching in muscles hamstring in cases of OA Knee. The author tries to prove it by applying several modalities that have been studied previously.

Conclusion: Physiotherapy management in the Praktik Fisioterapi Magetan setting use the three to ten weeks of exercise program. The specific technique of exercise and mobilitation knee were used to treat the knee problems among OA elderly man.

Keyword: infrared, muligan's mobilitation knee, osteoarthritis knee, pain, physiotherapy, myofascial release

Introduction

Osteoarthritis Knee (OA) is the most common condition during that elderly the quality of life, and a previous study has found that the most widely recognized type of osteoarthritis influencing up to 25% of people over the age of 50 years with many progressing to knee replacement surgery. Current clinical practice guidelines recommend knee replacement surgery only after firstline and second-line management options have been exhausted. Such non-surgical management options include patient education, exercise therapy, weight management and advice about pharmacological management of symptoms. Osteoarthritis Knee is the most well-known kind of joint inflammation and portrays the degeneration of the joints. Whilst most experience moderately mellow manifestations, for one in ten individuals, their knee agony and joint solidness are incapacitating. OA Knee were two of the top 20 search terms in an analysis of the searches conducted of the Physiotherapy Evidence Database (PEDro). Osteoarthritis Knee (OA) is the most common condition during that elderly the quality of life, and a previous study has found that the most widely recognized type of osteoarthritis influencing up to 25% of people over the age of 50 years with many progressing to knee replacement surgery. (Bhagat et al., 2020)

One of the diseases classified as musculoskeletal disease is osteoarthritis (OA). This disease most often affects joints in adults worldwide. The prevalence of OA in adults aged 25 years is 14% while in people and those over 65 years of age is 34%. The results of the research prove that most of the population aged 65 years and over have a radiographic picture with osteoarthritis. Symptoms arising in osteoarthritis of the knee are 16% in adults aged 45 years and over, and about 19% in women and 14% in men. Osteoarthritis of the knee in addition to causing severe pain can also have an effect on a person's daily condition, so that a person becomes "paralyzed" for all activities that are practiced. OA sufferers will indirectly depend on their lives on people around them, and this of course costs money. In other words, this disease can have an impact on the economy, employment, and moreover the quality of a person's life and health. (Gracia, 2021)

Osteoarthritis (OA) is the most common form of arthritis, affecting an estimated 302 million people worldwide (1–5), and is a leading cause of disability among older adults. The knees, hips, and hands are the most commonly affected appendicular joints. OA is characterized by pathology involving the whole joint, including cartilage degradation, bone remodeling, osteophyte formation, and synovial inflammation, leading to pain, stiffness, swelling, and loss of normal joint function.

As OA spans decades of a patient's life, patients with OA are likely to be treated with a number of different pharmaceutical and nonpharmaceutical interventions, often in combination. This report provides recommendations to guide patients and clinicians in choosing among the available treatments.

Case Presentation

This 59 years old. He as the a ex-work officer presented for the treatment of recurrent knee problems. The knee problems are primarily in the quadriceps region, bilaterally but worse on the right. Sometimes there is pain towards the right temple. The patient describes the pain as having an intensity of up to 4 out of ten, accompanied by a feeling of tension in the patella of the knee. When the pain is particularly bad, he feels that his vision is difficult. This problem began to two months ago when he walked around and can't flexi knee when praying. His knee dextra the patient has a penchant for lifting weights with a duration of 5-6 days per week. The patient used to be a activities who often participated in a social environment, the activity stopped when the patient suffered a knee injury about a two months ago, the patient choose not to undergo consume medicine for pain because a doctor recommend for go to the physiotherapist. The goals to be achieved are reducing the pain felt by the patient during activities, increasing and maximizing muscle strength, and optimizing the patient's daily activities so that they can return to activities and exercise again.have increased in frequency in the last month, now occurring three to four days per week. The pain seems to be worse towards the end of the work day and is aggravated by stress. He has not tought any other treatment. Otherwise the patient reports that he is in good health. There is no family history of OA knee. Examination revealed an otherwise fit-looking elderly man with walking slowly of the feet. Knee active ranges of motion were not full and pain. These motions were accompanied by discomfort in the right side of the knee. Patella compression of the knee in the neutral position did not create discomfort. However, compression of the flexi knee produced some right have a minus synovial get a pain. Strengthening knee examination was normal. Sensory and reflex functions were abnormal. With the patient in the sitting position, static palpation found a spasm in the knee Illiotibial Quadricep dan Hamstring. Blood pressure was 130/80. Mc.Murray Test (The patient is supine with the knee flexed and medial rotation of the tibia for the lateral meniscus. Vice versa to check medial meniscus, the aim is to determine abnormalities in the medial meniscus and lateral meniscus). There were no crepitation.

Management and Outcome

The patient undertook a course of treatment consisting of mulligan's mobilization and myofascial release were effective for the management of pain in subjects having grade II knee osteoarthritis for two times per week. Mulligan's mobilization was found to be more effective than myofascial release both in pain and range of motion. However, in terms of stiffness and functional abilities myofascial release more effective than Mulligan's mobilization. Moreover, when used with usual care Mulligan's Mobilization technique produced more immediate outcomes than myofascial release. There were accompanied by pain of therapy to the release muscles and stretching for iliotibial, muscles

hamstring, and muscles quadriceps . Additionally, advice was provided concerning maintenance of proper activities for walking. The patient was also instructed in the use of a static cycle. The patient maintained a knee pain score indicating that he have to do knee pain during the first week of care, and one knee pain the following week had to combine with infrared, TENS, ultrasound, strengthening and stretching.

Furthermore, the intensity of his knee pain declined through out the course of treatment. Based on the patient’s reported progress during the first two weeks of care, he received an additional two treatments in each of the time two weeks. During the last week of care, he experienced no pain and reported feeling generally more energetic than before therapy. Following a total of four weeks of care (8 treatments) he was charged.

Table 1

Score of Pain by VAS

Pain	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10
Nyeri Diam	0	0	0	0	0	0	0	0	0	0
Nyeri Tekan	4	4	4	4	3	3	3	2	2	2
Nyeri Gerak	8	8	7	7	7	4	4	3	3	3
Date	30-11-21	3-12-22	7-12-22	10-12-22	14-12-22	17-12-22	21-12-22	24-12-22	28-12-22	31-12-22

↑

At the baseline, the score of pain by VAS resulted in 0-10 measures pain intensity meaning in the table a pain was detected with minimum pain after 4 weeks of physiotherapy intervention

Table 2

ROM active movement by MMT

Knee	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10
Fleksi	2	2	2	2	3	3	3	4	4	4
Ekstensi	2	2	2	3	3	3	4	4	4	4
Date	30-11-21	3-12-22	7-12-22	10-12-22	14-12-22	17-12-22	21-12-22	24-12-22	28-12-22	31-12-22

↑

The evaluation, of the active movement showed a maximum improved. In T1-T10, but this still can be considered meaning progress in the growth and strengthening process

Table 3

LGS active movement assessment by Goniometer

T1	T2	T3	T4	T5	T6	T7	T8	T9	T10
0°-0°-95°	0°-0°-95°	0°-0°-98°	0°-0°-98°	0°-0°-100°	0°-0°-100°	0°-0°-115°	0°-0°-115°	0°-0°-120°	0°-0°-125°

The evaluation, of the active movement showed a maximum improved. In T1-T10, but this still can be considered meaning progress in the growth and impairment limitation process

Table 4

Kuesioner WOMAC

Nama: Px. Dacurun No: B: Tgl: 11-11-2021

Nyeri	No	Gejala	Skala nyeri berdasarkan berat				Jumlah
			0	1	2	3	
Nyeri	1.	Begalan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2.	Menaiki tangga	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.	Pada malam hari	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.	Saat istirahat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5.	Membawa beban	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jumlah							0
Kekakuan	1.	Kekakuan di pagi hari	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2.	Kekakuan yang terjadi di kemudian hari	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jumlah							0
Fungsi Baik	1.	Menurun tangga	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2.	Menaiki tangga	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.	Berdiri dari duduk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.	Berdiri	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5.	Berbelok di lantai	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6.	Begalan di alat pembehan yang datar	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	7.	Masuk atau keluar mobil	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	8.	Pergi berbelanja	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	9.	Memasang kaos kaki	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	10.	Berkurang di tempat tidur	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	11.	Membuka/sengambl kaos kaki	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	12.	Bangkit dari tempat tidur	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	13.	Masuk/keluar bak tempat mandi	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	14.	Duduk	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	15.	Keluar/masuk toilet	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	16.	Melakukan tugas rumah-tangga ringan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	17.	Melakukan tugas rumah-tangga berat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jumlah							7
Jumlah Total							7

0=tidak ada, 1=ringan, 2=sedang, 3=berat, 4=sangat berat

At the baseline, the score by womac resulted in 7 . It means that still light

Discussion

The distinction between pain and limitation in knee is not always clear. However, this case demonstrates several aspects regarding the results of exercises and treatments that are able to restore motion and function in the body through muligan's mobilization, myofacial release, infrared, tens and ultrasound in reducing pain in osteoarthritis knee grade II for 2 times in therapy a week which can provide a comfort effect in minimizing complaints in patient.

Conclusion

This case demonstrates a classical presentation about knee of pain, limitation of functional and motion knee which resolved quickly with a course of knee muligan's mobilization and myofascial release with modalities support. Optimal management requires a comprehensive, multimodal approach to treating patients with hand, hip, and/or knee OA offered in the context of shared decision-making with patients, to choose the safest and most effective treatment possible. A large research agenda remains to be addressed, with a need for more options with greater efficacy for the millions of people worldwide with osteoarthritis. Mulligan's techniques mobilization produced immediate effects in reducing knee pain and improving functional mobility in knee OA as compared with a sham intervention. In addition to the directional forces causing the correction of positional faults, the study provides preliminary support for non-specific mechanisms of pain relief.

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