World Journal of Pharmaceutical and Life Sciences

www.wjpls.org

Impact Factor: 7.409 Coden USA: WJPLA7

MANAGEMENT OF OSTEOARTHRITIS OF KNEE THROUGH MAGNETIC RESONANCE THERAPY A CASE STUDY

Dr. Tejas V.*

Consulting Doctor, QRST Clinic. Bangalore.

***Corresponding Author: Dr. Tejas V.**

Consulting Doctor, QRST Clinic. Bangalore.

DOI: https://doi.org/10.5281/zenodo.18439890

How to cite this Article: Dr. Tejas V.* (2026). Management Of Osteoarthritis Of Knee Through Magnetic Resonance Therapy A Case Study. World Journal of Pharmaceutical and Life Science, 12(2), XX–XX.

Article Received on 21/12/2025 **Article Revised on 10/01/2026** **Article Published on 01/02/2026**

ABSTRACT

Knee osteoarthritis (OA), also known as degenerative joint disease, is typically the result of wear and tear and progressive loss of articular cartilage. It is most common in the elderly. Knee osteoarthritis can be divided into two types, primary and secondary. Primary osteoarthritis is articular degeneration without any apparent underlying reason. Secondary osteoarthritis is the consequence of either an abnormal concentration of force across the joint as with post-traumatic causes or abnormal articular cartilage, such as rheumatoid arthritis (RA) etc. The prevalence of OA Knee is around 13% of women and 10% of men which is higher in women compared to men in there 60 years. In the present study, Magnetic Resonance Therapy is given to a subject who was suffering from Primary OA.

KEYWORDS: Magnetic Resonance Therapy, Osteoarthritis of Knee.

INTRODUCTION

Knee osteoarthritis (OA), also known as degenerative joint disease, is typically the result of wear and tear and progressive loss of articular cartilage. It is most common in the elderly people. Knee osteoarthritis can be divided into two types, primary and secondary. Primary osteoarthritis is articular degeneration without any apparent underlying reason. Secondary osteoarthritis is the consequence of either an abnormal concentration of force across the joint as with post-traumatic causes or abnormal articular cartilage, such as rheumatoid arthritis (RA)[1] etc conditions.

Osteoarthritis is typically a progressive disease that may eventually lead to disability. The intensity of the clinical symptoms may vary for each individual. However, they typically become more severe, more frequent, and more debilitating over time. The rate of progression also varies for each individual. Common clinical symptoms include knee pain that is gradual in onset and worse with activity, knee stiffness and swelling, pain after prolonged sitting or resting, and pain that worsens over time. Treatment for knee osteoarthritis begins with conservative methods and progresses to surgical treatment options when conservative treatment fails. While medications can help slow the progression of RA and other inflammatory conditions, no proven disease-modifying agents for the treatment of knee osteoarthritis currently exist. Epidemiologically almost around 13% of the women and 10% of men suffer from OA knee in there 60 years.[2] A study showed that 15% of the population will be suffering from OA radiographically with out any symptoms of OA.[3]

The pathology occurs where the dis-equilibrium occurs between type II collagen, proteoglycans, chondrocytes and water occurs. In Osteo arthritis Matrix Metalloproteases (MMPs) or degradative enzymes, are over expressed, disrupting the equilibrium and resulting in an overall loss of collagen and proteoglycans. In the early stages of osteoarthritis, chondrocytes secrete tissue inhibitors of MMPs and attempt to increase the synthesis of proteoglycans to match the degradative process. However, this reparative process is not enough. The loss in equilibrium results in a decreased amount of proteoglycans despite increased synthesis, increased water content, the disorganized pattern of collagen, and ultimately loss of articular cartilage elasticity. Macroscopically these changes result in cracking and

fissuring of the cartilage and ultimately erosion of the articular surface.[4]

Although knee osteoarthritis is closely correlated with aging, it is important to note that knee osteoarthritis is not simply a consequence of aging but rather its own disease. This is supported by the differences seen in cartilage with both osteoarthritis and aging. Furthermore, the enzymes responsible for cartilage degradation are expressed in higher amounts in knee osteoarthritis, whereas they are at normal levels in the normal aging cartilage.[5]

CASE REPORT

A Female patient aged about 61 years of age visited QRST clinic with the complaints of pain in Left leg since few months and she was feeling difficulty in walking and was experiencing severe pain whenever she is getting up from chair. The subject started experiencing pain for 6 months which was of less intensity. She neglected the condition and was doing her daily work. The pain used to increase by the end of the day, or aggravated while performing any stressful activities. She took some pain killers but she did not get good relief. Then she visited doctor who suggested X-Ray of knee, which showed OA Knee. She was advised rest, NSAID, and some exercises. After consuming those medication she was having dizziness, for which she stopped the medication. Later she visited QRST clinic.

Her systemic examinations were not significant for any major systemic diseases. She had no H/O HTN, DM, Thyroid disorders.

Her vitals were stable with P/R 80bpm, BP 130/80 mm of Hg, RR 21/min, temperature 98^0 F.

FAMILY HISTORY

Not significant in present condition.

PERSONAL HISTORY

- Appetite: Good
- Diet: Vegetarian
- Sleep: Disturbed,
- Bowel: Regular
- Micturition: 5 –6 times per day
- Habits: Tea 3-4 times/day

GENERAL PHYSICAL EXAMINATION

- Built and nourishment: Moderate
- Pulse: 80bpm
- B. P: 130/80 mm of Hg
- Temperature: 98.6^0 F
- Respiratory rate: 21/ min
- Height: 168cm
- Weight: 76kg
- Pallor: Absent
- Icterus: Absent
- Cyanosis: Absent
- Clubbing: Absent
- Oedema: Absent
- Lymphadenopathy: Absent

SYSTEMIC EXAMINATION

- Central nervous system: Higher mental functions, Sensory, Motor, reflexes and Coordination intact.
- Cardiovascular system: S1 S2 heard, no added sounds.
- Respiratory system: Normal vesicular breathing sound heard, no added sounds.
- Per abdomen: Soft, non-tender

LOCAL EXAMINATION

Inspection

- Gait – Antalgic gait
- Localized swelling – Present

Palpation

- Temperature – Afebrile
- Tenderness – Positive (according VAS – 6)
- Abduction stress test – Normal
- Adduction stress test – Normal
- Anterior draw test – Normal
- Posterior draw test – Normal
- McMurry test – Positive

Restriction of movement

- Restriction of flection and extension is because of pain

Vascularity examination

- Popliteal pulse – Normal
- Posterior Tibial pulse – Normal
- Dorsalis pedis pulse – Normal

TREATMENT

- When patient visited our clinic thorough examination was done
- The subject was given physiotherapy treatment for 5 days
- The physiotherapy included 5 sessions of IFT therapy followed by Ultrasound Massage therapy
- Later the subject was treated with Magnetic Resonance Therapy for 1 hour daily continuously for 9 days.
- Before starting of the therapy, the subjects have to get hydrate well by drinking 250 to 300 ml of water.
- Post therapy the subjects should take rest, can perform their daily routine. But should not strain more.
- After completion of the 9 sessions of QRST therapy the subjects were taught with static isometric exercise for strengthening of thigh and leg muscles.
- The exercise should be done daily 2 times a day with 10 counts of each exercise for 2 rips.
- This exercise was carried out for 3 months.

- The repeat X-Ray was done after 3 months for the analysis.

X-RAY PHOTOS

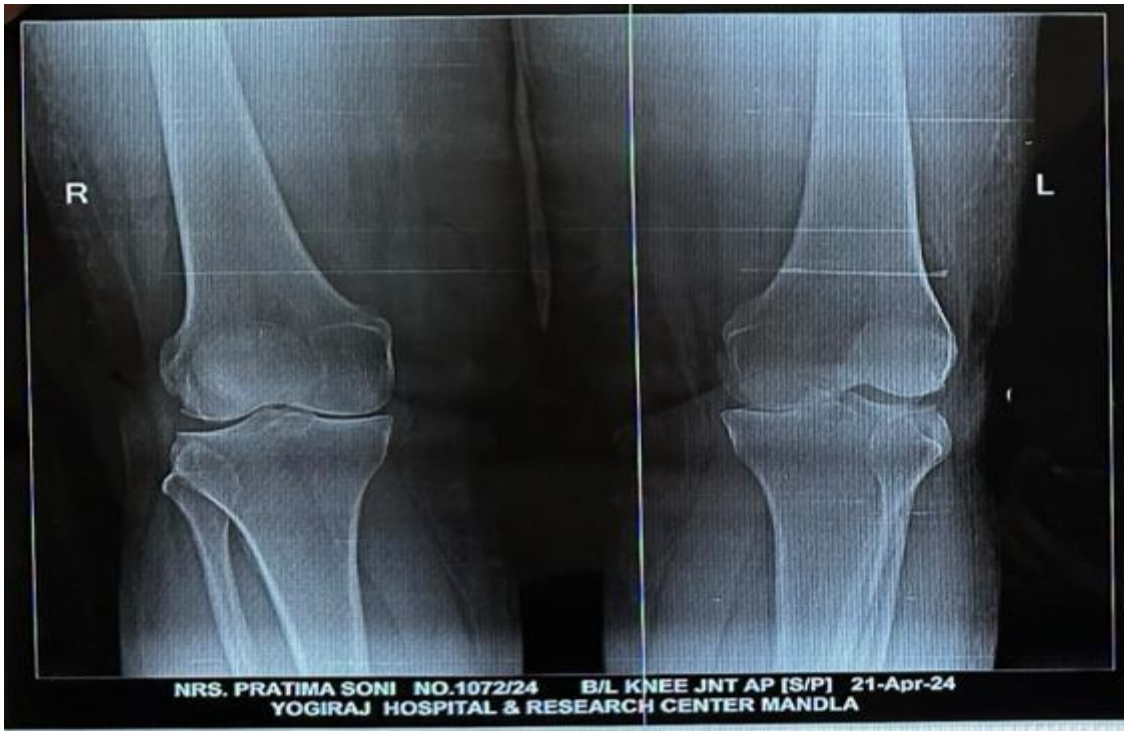

FIG 1: showing the image of X-ray Before treatment (21/4/24).

X-ray showing image of both knee AP view

FIG 2: showing the image of X-ray after treatment (4/9/2024)

X-ray showing image of Left knee AP and Lateral view

RESULTS

In this case there was a good result by following the protocol-oriented procedure. When the patient visited our clinic, the X-ray shows 3rd to 4th degree of osteoarthritis of knee. She experienced severe pain while getting up from the chair, and felt pain while walking. When the treatment started, she gradually experienced reduction of pain and discomfort. As the treatment progressed the pain and stiffness was reduced by 80%. By the

completion of the treatment, patient had been relieved from pain in resting posture.

She was advised with isometric knee exercises which the patient followed properly. She was having good nutritive diet, and was not straining herself. As the days progressed the pain was also reducing. So after 3 months repeat X-ray was carried out to check the condition of knee which showed the is increase in the joint space.

DISCUSSION

The Magnetic Resonance Therapy is a non-invasive procedure which helps in the regeneration of the tissue. In this therapy the magnetic radiations of weak intensity help in charging the protons in the tissue. The treatment of osteoarthritis of the joint with out drugs often focuses on decompression of joint in order to reduce the symptoms. This treatment helps to avoid the degradation of cartilage caused by excessive or strain full work load.[6] With regard to its therapeutic success, from the patients view, the important metrics relating to pain relief and improvement in restricted function.[7]

CONCLUSION

This case study shows that there is an effective management in the treatment of osteoarthritis of knee through the Magnetic resonance Therapy. This single case study shows that, by following the step wise protocol helps in attaining the maximum recovery, with complete range of movements, with pain reduction. Therefore, with the proper protocol-oriented procedure including physiotherapy, exercises, and proper nutrition helps to achieve a better results with out any surgical or invasive procedure. Further, it is a need for an hour to treat more cases of osteoarthritis by adopting the similar treatment protocol for its scientific recognition.

This single case study is an effective treatment in the conservative management of osteoarthritis of knee, which can be carried out on OPD basis, which is more cost effective to the patient as well without disturbing the daily routine.

REFRENCES

1. Hunter Hsu, Ryan M, Siwicc. Knee osteoarthritis. National Library of Medicine, 2023.
2. Hunter Hsu, Ryan M, Siwicc. Knee osteoarthritis. National Library of Medicine, 2023.
3. Magnusson k, Turkiewicz A, Englund M. Nature vs Nurture in knee osteoarthritis – the importance of age, sex and body mass index. Osteoarthritis cartilage. PubMed, 2019.
4. Kisand K, Tamm A E, Lintrop M, Tamm A O. New insight into the natural course of knee osteoarthritis : early regulation of cytokines and growth factor, with emphasis on sex dependent angiogenesis and tissue remodeling. A piolet study. Osteoarthritis cartilage, 2018; Aug 26(8): 1045-1054.
5. Kisand K, Tamm A E, Lintrop M, Tamm A O. New insight into the natural course of knee osteoarthritis : early regulation of cytokines and growth factor, with emphasis on sex dependent angiogenesis and tissue remodeling. A piolet study. Osteoarthritis cartilage, 2018; Aug 26(8): 1045-1054.
6. W. Kullich, J Overbeck, and HU Spiegel. One year survey with multi centre data of more than 4500 patients with degenerated Rheumatic disease with Therapetic Nuclear Magnetic Resonance Therapy. Journal of Back Musculo Skeletal Rehabilitation, 2013.
7. W. Kullich, J Overbeck, and HU Spiegel. One year survey with multi centre data of more than 4500 patients with degenerated Rheumatic disease with Therapetic Nuclear Magnetic Resonance Therapy. Journal of Back Musculo Skeletal Rehabilitation, 2013.