

Management and care of osteoarthritis as a challenging factor: differentiation on pharmacological treatment and non-pharmacological activity

Prabhudatta Mohapatra^{1*}, Karmajeet Rath², Pritish Kumar Pasayat¹, Pravasranjan Dash³

1. Sri Jayadev College of Pharmaceutical sciences,

Bhubaneswar, Odisha, India

2. IMS & SUM Hospital, Siksha 'O' Anusandhan Deemed to be University,

Bhubaneswar, Odisha, India

3. School of Pharmacy, ARKA JAIN University,

Jamshedpur, Jharkhand, India

*Correspondence: prabhudattamohapatra8@gmail.com

ABSTRACT

Osteoarthritis is frequently evaluated in a clinical setting using recognised clinical recommendations that serve as a diagnostic reference. In this retrospective analysis, patients with OA saw an enhancement in their quality of life. NSAIDs are the first line of treatment, but no one drug is particularly effective in treating osteoarthritis. The risk factors for contracting OA include age, female gender, obesity, anatomical features, decreased muscle, and joint destruction (due to a job or sports). The most common age groups affected by OA are middle-aged and older people, and its signs can range from mild to severe. There are several non-pharmacologic osteoarthritis therapy alternatives, which can be broadly divided into educational and physical tactics. Modifying lifestyle patterns, including eating habits and exercise routines, as well as joint protection techniques and walking aids, is the cornerstone of instructional interventions.

Keywords: Osteoarthritis; arthritis; life style in arthritis; Chronic arthritis; acute arthritis

INTRODUCTION

The most prevalent musculoskeletal condition, osteoarthritis, causes functional decline and a decline in quality of life. Osteoarthritis (OA) is a multifactorial condition characterised by a gradual loss of synovial joint functioning over time. Although it was once thought to be an illness that just affects the articular cartilage, it is now recognised as a disease that affects the entire joint [1]. As a result, articular cartilage deterioration, osteochondral bone sclerosis, and

synovial membrane hypertrophy all contribute to the disease's progression. The most prevalent type of recurrent arthritis is osteoarthritis (OA), which is a lifelong illness [2].

While OA may affect any joint, from the vertebral canal to the feet, it is most common in the hand, hip, and knee. The severity and location of the disease might impact symptoms, but the most prevalent ones include pain, stiffness or lack of movement, edoema, and heat around the affected joint [3].

Middle-aged and elder individuals will be most commonly involved by osteoarthritis, that could vary in symptoms from the really minor to quite acute. Hands, weight-bearing joints like the knees, hips, foot, and back are all impacted. The most prevalent type of oa is joint osteoarthritis [3,19].

Osteoarthritis often is examined in a clinical environment, utilising accepted clinical guidelines that serve as a "diagnostic reference." Even though the pathophysiological alterations of osteoarthritis are well documented, variances between joint sites should be taken into account for better case ascertainment since variations in how articular changes produce signs and symptoms within different joints are expected [1,4,16,17].

Age, female gender, obesity, anatomical characteristics, muscle weakness, and joint damage (from work or sports) are risk factors for developing OA. The most prevalent subgroup of the disease, primary OA, is diagnosed without a preceding event or illness but is linked to the risk factors mentioned above. When a joint abnormality actually occurs, acute osteoarthritis develops [1,2].

Accident or trauma, congenital joint diseases, inflammatory arthritis, avascular necrosis, infectious arthritis, Paget disease, osteopetrosis, osteochondritis dissecans, and metabolic abnormalities are among the predisposing circumstances [6].

Although this is not the primary cause, like it is in the scenario with inflammatory arthritis, there is also a certain level of systemic inflammation with enlargement. Ligaments and joint capsules are illustrations of softer surfaces that are impacted. Both calcium phosphate and calcium pyrophosphate dihydrate crystals can be found in end-stage OA. Although their function is uncertain, it is believed that they contribute to synovial inflammation [5,6].

The pillars of non-pharmacologic treatments include avoiding activities that aggravate pain or stress the injured part, trying to exercise to increase strength, trying to lose weight, and obtaining rehabilitation services to relieve the tension on the joint surfaces so that you can use crutches, a cane, a brace, or other assistive devices. Physicians must adopt exercise protocols that include both anaerobic and aerobic workouts because they have been proven in several studies to reduce inflammation and enhance functional status [8, 10].

AIM AND OBJECTIVE

It is a retrospective prescriptional study, so this does not include any ethical committee approval, and no informed consent was taken from the patients.

Aim of the case study;

Mental and physical care to improve the quality of life in osteoarthritis.

Management of risk factor of joint through regular exercise.

NSAID's as the initial therapy for the pain management.

METHOD

Patients came to physicians with common symptoms of joint pain, swelling of joints, body pain, muscle cramps, and difficulty moving. Following a physical examination, doctors recommended erythrocyte sedimentation rate (ESR), ASO titres (anti-streptolysin O), C-reactive protein (CRP), and uric acid tests. According to a variety of laboratory tests, physicians prefer NSAIDs as the primary pain relievers and advise patients on meditation and regular exercise for a healthier lifestyle. After 2-3 visits, patients feel comfortable, and they also rely on the effectiveness of exercise to improve their lifestyle. Proton pump inhibitor(PPI) are used to avoid gastric irritation by the use of NSAIDs and all patient continue Multivitamin and Cholecalciferol 60,000mg per week in a regular basis.

TABLE 1(PATIENT PROFILE WITH LABORATORY TEST)

Sample(n=6)	Sex/Age	Laboratory Test			
		Erythrocyte Sedimentation Rate (ESR) mm/Hour	ASO Titres (Anti Streptolysin O) IU/mL	C-Reactive Protein (CRP) mg/L	Uric Acid mg/dL
Patient-1	M/55yr	89	280	-	-
Patient-2	F/45yr	110	-	69	-
Patient-3	F/42yr	65	130	-	-
Patient-4	F/28yr	33	-	-	-
Patient-5	M/69yr	68	-	-	9.4
Patient-6	M/18yr	35	-	-	-

TABLE 2(DRUGS USED)

Drugs	Sample(n=6) [Male (50%), Female (50%)]		
	1 st Visit	2 nd Visit	3 rd Visit
Diclofenac sodium 20mg	16.66% used	16.66% used	Now the Diclofenac is withdrawn as symptoms reduced to normal
Aceclofenac (100/200 mg)	From 50% 100mg used by 33.34% and 200mg used by 16.66%	16.66% used only 100mg	Now the Aceclofenac is withdrawn as symptoms reduced to normal
Etoricoxib (60/120 Mg)	From 33.34% only 16.67% used 60mg and another 16.67% used 120mg	From 66.67% only 50%continue with 60mg and only 16.67% used 120mg	Now the Etoricoxib is withdrawn as symptoms reduced to normal
Paracetamol (325mg)	50% used with Aceclofenac and Etoricoxib	33.34% continue with Aceclofenac and Etoricoxib	Now the Paracetamol is withdrawn as symptoms reduced to normal
Hydroxychloroquine (200/400 mg)	33.33% used 400mg	Now the dose was reduced and only 33.33% are now taking 200mg	33.33% are now continuing 200mg for 3months

DISCUSSION

The main targets of treatment are maintaining or enhancing joint mobility and function, reducing side effects, and improving quality of life in terms of health. Every patient should receive a unique course of treatment. The main clinical guidelines for disease management

largely concur that treatment should entail a combination of non-pharmacologic and pharmacological treatments because no single therapy is sufficient [7, 9].

Solutions for oral, topical, and/or intraarticular pharmacotherapy are possible for OA. The most widely used and cost-effective medications for OA are acetaminophen and oral NSAIDs, that are frequently used as the first line of treatment. NSAIDs are typically taken orally or topically, and they should first be started on an as-needed basis rather than on a regular basis. Oral NSAIDs should be taken very carefully and under constant supervision for the duration of treatment due to GI toxic effects, renal, and cardiac adverse effects. Although they have minimal GI and other systemic adverse effects, topical NSAIDs have become less effective than the oral versions and can cause local skin irritation [11, 12, 13].

Despite the numerous non-pharmacologic treatment options for osteoarthritis, they can be broadly categorised into educational and physical strategies. The foundation of educational strategies is the modification of lifestyle patterns, such as food and exercise, as well as joint protection methods and walking aids. Activities for the body include aerobic workouts, exercise for building muscle, and range-of-motion exercises. Depending on every patient's needs, physiotherapy techniques like electrotherapy, thermal modalities, and manual therapy are also suggested [14,15].

Even though most current therapeutic strategies focus on treating symptoms, OA still has the possibility of affecting a patient's quality of life, as well as the chance that the disease's expenses could be decreased. The application of these fresh sources of understanding of the disease's process shows potential for the design of novel, possibly disease-modifying medications.

CONCLUSION

The impact of osteoarthritis on people and society is significant and growing. New features of the pathophysiology and development of OA have been exposed by advances in our knowledge of the condition. The possibility of OA having a complex etiology—one caused by the interaction of a number of modifiable and non-modifiable factors—just seems to be getting increasing acceptance. The proper comprehension of every component of this disorder may contribute to better osteoarthritis patient identification, enable early treatment options, and also enable the adoption of the necessary public health initiatives.

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