

A Clinical Case Study on Bilateral Knee Osteoarthritis and its Therapeutic Approach

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Abstract: OA is the most common type of Arthritis. The prevalence of OA correlates strikingly with age, and it is much more common in women than in men. Joint vulnerability and joint loading are the two major risk factors contributing to OA.

These are influenced by factors that include age, female sex, race, genetic factors, Nutritional factors, joint trauma, previous damage, prospective Deficiencies, and obesity. [1] A 45 -year old female pt. complains of persistent pain in B/L knee along with swelling and crepitus, difficulty in walking with restricted movement of knee joint since 3 years, diagnosed with osteoarthritis in both knees. The patient was treated orally with a compound unani formulation in addition to the local application, which acts as a Mohalli-i-Awram wa Musakkinn -i-Awja'a as stated in the unani pharmacopeia, which is advised for Waja-ul-Mafasil. No adverse effects were seen during the duration of treatment, and the formulations were confirmed to be effective. There was a noticeable and really substantial improvement.

Keywords: Waja-ul- Rukba, Unani Medicine, Colchicine, Knee Osteoarthritis.

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I. INTRODUCTION

Osteoarthritis is an abnormality of synovial joints characterized by softening, splitting and fragmentation (fibrillation) of articular cartilage not attributable to direct contact with inflammatory tissue. This is usually accompanied by subchondral sclerosis and bone cysts, joints space narrowing and overgrowths at tissue joint margins (osteophytes). [2]

According to Unani literature Waja -ul - Mafasil is an arabic word which means pain in joints. It is a painful or inflammatory condition affecting joints and its muscles, and ligaments and may involve any joints that are; hips, knee, hands, wrists, back with accumulation of morbid matter in the joints as the causation factor liable for pain and inflammation.

Joints are composed of bones which are inter related and inter connected with the help of cartilage tendon; articular surfaces of some joints possess some intervening spaces which helps them to perform different kinds of movements. These spaces are filled with *Rutubat -i- Tajawif* (synovial fluid), which act as a lubricant and keep the joint surface consistently moist, so as to prevent from friction.[3]

➤ Anatomy and Physiology of Normal Joint:

- *Types of Joints:*
 - ✓ Fibrous
 - ✓ Fibrocartilaginous
 - ✓ Synovial

• *Synovial Joints:*

These are complex structures containing several cell types. They are found where a wide range of movement is needed.

• *Synovial Fluids:*

The surfaces of articular cartilage are separated by a space filled with synovial fluid (SF), a viscous liquid that lubricate the joint. It is an ultrafiltrate of plasma, into which synovial cells secrete hyaluronan and proteoglycans.

With ageing the concentration of chondroitin sulphate decreases, whereas that of keratan sulphate increases, resulting in reduced water content and shock-absorbing properties. These changes differ from those found in osteoarthritis, where there is abnormal chondrocyte division, loss of proteoglycan from matrix and an increase in water content.

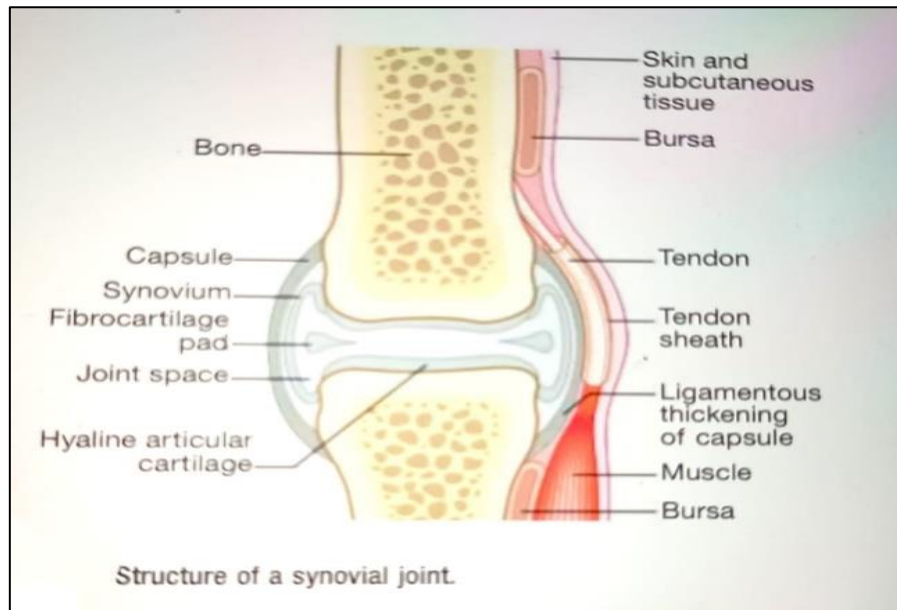


Fig1 Structure of a Synovial Joint

➤ *Radiographic Abnormalities in Osteoarthritis Could be :*

- Joint space narrowing
- Osteophytes
- Subchondral sclerosis
- Joint deformity
- Subchondral sclerosis [4]

• *Case Presentation:*

A 45 -year old female, married housewife living in Hyderabad, Patient complains of persistent pain in B/L knee along with swelling and crepitus, difficulty in walking with restricted movement of knee joint, stiffness since 3 years. Though the symptoms were severe, Taking NSAIDs but there hasn't been much relief. She has no prior history of trauma or fall, and her body weight is 92kg.

➤ *Physical Examination:*

- Swelling and tenderness present in both knee joint
- Crepitus on flexion and extension of the knee
- stiffness
- Difficulty in walking
- No Redness
- No deformity

➤ *Medical History:*

History of Hypertension

Overweight = 92 kg

- *Family History:* No family history

II. INVESTIGATIONS

➤ *Blood Investigation Findings:*

Hb%	11.4 gm
ESR	32mm/hr.
CRP	5 mg/dl
Wbc	7,500/cumm
Platelets	2.89 lakhs/cumm
Rbs	117mg/dl
Serum creatinine	0.88mg/dl
Serum uric acid	5.8 mg/dl
T3	1.08ng/ml
T4	8.1 /dl
TSH	1.04 IU/ml
S.Total cholestrol	205mg/dl
S.Triglycerides	127mg/dl
S.HDL	48mg/dl
RA factor	14.06 IU/ml (N)
Serum calcium	9.0 mg/dl



Fig 2 X-RAY of Both Knees AP & Lateral View

Source: X- Ray Showing:

Narrowing of medial compartment of bilateral joint spaces noted.
Bilateral patellar beakings noted.

- **Diagnosis:** Osteoarthritis of B/L knees.

➤ Management

- **Orally:**

The patient was advised to take medicine of following compound drugs (each taken in equal quantity and powdered), which has been given to the pt.in capsule form, 2 capsule in the morning and two capsule in the evening. [5,6].

Table 1 Pharmacological overview of selected single drugs:

Sr. No.	Drug Name	Botanical name	Mizaj	Actions
1	Suranjan	Colchium luteum Baker	Hot 2 Dry 2	Rheumatism, Musakkin wa Mohallil, mushil-i-balgham
2	Bozedan	Pyrethrum indicum	Hot & Dry	Rheumatism, Munagqi-i-A'sab wa mafasil
3	Asgand	Withania somnifera	Hot 1 Dry 1	Expels Balgham & sawda, Rheumatism
4	Zanjabeel	Zinjiber officinale	Hot 3 Ratab 1	Rheumatism, Mukhrij-i-balgham wa sawda

Source: Unani Compound Formulation for Osteoarthritis Management

III. DISCUSSION

After receiving Unani treatment and making lifestyle changes for 8 weeks, the patient noted a 70%-80% reduction in knee pain, swelling, and stiffness along with an improvement in overall health - On follow up by 15 days for 2 months.

➤ Lifestyle Advised:

It is recommended to steer clear of high heels, flat shoes without cushioning, shock-absorbing footwear, high-calorie junk food, excess weight, prolong standin or walking, high impact activity which increases knee pain and causes weight gain.

- Strengthening and aerobic exercise
- Quadriceps strengthening exercise

- **For Local Application:**

- ✓ Rose petals / *Rosaceae Gallica Petala*
- ✓ Gul - e - Tesu/*Butea monosperma (Lam)*. It is administered in watery paste form on alternate, for 15 days to combat inflammation and pain.

They are both anti-inflammatory, analgesic (*Mohallil - e - Awram, musakkin -i- Awja'a*) medicines. [7]

IV. CONCLUSION

The Unani medical system has a rich and lengthy history of using a holistic approach based on tried-and-true medications and treatments to promote health, prevent illness, and manage it. Unani medication has very little negative side effects and is particularly successful in treating chronic conditions. While NSAIDs and analgesics are used in conventional medicine to treat osteoarthritis (OA), they only briefly alleviate symptoms and can cause chronic kidney

disease or renal failure, cardiovascular diseases. The only options left to them are osteotomy and arthroplasty. The preferred modality these days is total knee replacement, or TNR, has a number of possible complications and side effects. while a Unani herbal formulation and the local application of Rose petals and Gul e Tesu have shown effectiveness in treating osteoarthritis in both knees.

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