

OSTEOARTHRITIS (ARTROSIS): OVERVIEW & CONSERVATIVE TREATMENT

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Abstrat

Osteoarthritis (OA) is a chronic, degenerative joint disease characterized by progressive cartilage breakdown, subchondral bone changes, osteophyte (bone spur) formation, and joint dysfunction. It is the most common joint disorder, especially in older adults.

Keywords: Osteoarthritis, Degenerative joint disease, osteophyte, Conservative Treatment.

Introduction

Etiology (Causes)

Primary (Idiopathic) OA

- Most common in people over 50
- No specific cause, but risk factors include:
 - * Aging
 - * Female gender
 - * Obesity
 - * Genetic predisposition
 - * Joint overuse or repetitive stress

Secondary OA

- Due to an identifiable cause:
 - * Previous joint injuries (trauma)
 - * Joint infections
 - * Congenital joint deformities

* Hormonal imbalances

* Inflammatory joint diseases (e.g., rheumatoid arthritis, gout)

Pathogenesis

Cartilage loses elasticity and develops cracks. Subchondral bone hardens and may develop microfractures. Joint space narrows; osteophytes form. Synovial fluid production decreases, leading to joint stiffness, pain, and limited motion.

Clinical Features (Symptoms)

- Pain: Initially with movement, later even at rest
- Stiffness: Especially in the morning or after periods of inactivity
- Crepitus: A grating or cracking sound during movement
- Limited range of motion
- Joint deformity in advanced stages

Diagnosis

1. Clinical Examination: Tenderness, joint line pain, stiffness (especially in the morning), range of motion assessment and deformity.

2. Imaging:

- X-ray: Shows joint space narrowing, osteophyte formation, subchondral sclerosis, and bone cysts

- MRI/CT: Helpful in early stages to assess cartilage and soft tissue damage

3. Laboratory tests: normal ESR/CRP in the absence of inflammation

Classification (Kellgren and Lawrence):

0 - No radiographic features

I - Doubtful joint space narrowing, possible osteophytes

II - Definite osteophytes, possible narrowing

III - Moderate narrowing, multiple osteophytes

IV - Severe narrowing, large osteophytes, deformity

Conservative (Non-Surgical) Treatment

1. Medications:

- NSAIDs (e.g., ibuprofen, diclofenac, meloxicam) to reduce inflammation and pain

- Acetaminophen (Paracetamol) for mild-to-moderate pain relief

- Chondroprotective agents: Glucosamine, chondroitin sulfate (controversial evidence)

- Intra-articular injections:

* Corticosteroids — for flare-ups

* Hyaluronic acid — for joint lubrication

2. Physical Therapy:

- Ultrasound therapy, magnetic therapy, electrophoresis

- Heat and cold therapy for pain and stiffness

3. Exercise & Rehabilitation:

- Low-impact aerobic exercise (e.g., swimming, cycling)
- Stretching and strengthening exercises
- Water-based therapy (aquatic therapy)

4. Lifestyle Modifications:

- Weight loss to reduce joint stress
- Use of orthopedic shoes, braces, walking aids
- Activity pacing — avoid prolonged standing or repetitive movement

5. Complementary Therapies:

- Acupuncture
- Manual therapy
- Some use herbal or traditional remedies (though not always evidence-based)

Expanded Conservative (Non-Surgical) Treatment Options

6. Nutritional Support & Supplements:

- Omega-3 fatty acids: May have mild anti-inflammatory effects.
- Vitamin D: Important for bone health; deficiency can worsen symptoms.
- Collagen peptides: Some studies suggest potential benefit in cartilage support.
- Antioxidants: Vitamins C and E may support joint health, though evidence is limited.

7. Patient Education & Self-Management:

- Providing patients with information about the disease, prognosis, and treatment options improves adherence.
- Self-management programs and mobile apps can support daily exercise and pain tracking.

8. Assistive Devices:

- Canes, walkers, and joint braces reduce load on affected joints.
- Orthotic insoles can improve gait mechanics in knee or hip OA.

9. Cognitive Behavioral Therapy (CBT):

- Helps patients cope with chronic pain.
- Reduces depression and improves quality of life when combined with physical treatment.

10. TENS (Transcutaneous Electrical Nerve Stimulation):

- A non-invasive method for pain relief using low-voltage electrical currents.
- Can be used at home or in physical therapy settings.

Disease Course & Prognosis

Osteoarthritis progresses slowly over time. Early-stage OA can be managed effectively with conservative measures. In late-stage disease with severe pain and disability, joint replacement surgery (e.g., total knee or hip arthroplasty) may be considered.

Conclusion

Osteoarthritis is one of the most common musculoskeletal disorders in the population, with a prevalence of approximately 20%. This condition is particularly more frequent in individuals aged 40–60 years. The prevalence of osteoarthritis increases with age. Research indicates that in people over the age of 65, one in two individuals is diagnosed with osteoarthritis, and nearly all individuals over the age of 75 are affected.

Statistical data reveals that osteoarthritis is present in 26% of women and 12% of men, with the incidence being significantly higher in women compared to men, with a ratio of approximately 1:10. This highlights the importance of early diagnosis and appropriate treatment. With modern therapeutic approaches, it is possible to preserve joint function and improve the quality of life for individuals affected by osteoarthritis.

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