

# Osteoarthritis Arthrosis

Template:Infobox - onemocnění Osteoarthritis also known as arthrosis belongs to the family of arthritic disease. It is a heterogenous group of diseases with common manifestations and findings. Osteoarthritis is a degenerative disease characterized principally by the disintegration of the hyaline articular cartilage paving the way for the damage of the joint and the respective bones.

## Epidemiology

náhled|200px|Výskyt OA ve světě v roce 2004 Osteoarthritis affects 250 million patients worldwide with a predilection to the female sex and to the elderly population.

## Etiology

There exists two basic forms of Osteoarthritis:

1. Primary Metabolic ; the disintegration of cartilage is a primary, idiopathic, metabolic disorder
2. Secondary Mechanical: the disintegration of cartilage is a secondary mechanical disorder arising from the "wear and tear" of the joint's cartilage or more commonly secondary to mechanical incongruity of the joint predisposed by a variety of disorders including:
  - Congenital disorders (eg limb hypoplasia, congenital hip dysplasia)
  - Arthritis (eg Rheumatoid Arthritis, Gout, Septic)
  - Vascular (eg hemophilia and intrasynovial hemorrhage)
  - Infections (eg syphilitic and tuberculous infections of bones and joints)
  - Tumors (eg pigmented villonodular synovitis)
  - Traumas
  - Endocrine disorders (McCune Albright syndrome and fibrous dysplasia)
  - Obesity
  - Bone disorders: Osteoporosis, Osteomalacia, Osteonecrosis

## Clinical Picture

náhled|RTG snímek – osteoartróza v typické lokalizaci distálních a proximálních interfalangeálních kloubů ruky

Osteoarthritis does NOT present with the classical Celcius signs of inflammation as Septic arthritis does. However, it is characterized by certain inflammatory changes. When dealing with Osteoarthritis, you'd expect:

- Pain
- Joint stiffness and limitation in the range of motion
- Swollen joint
- Crepitus sound upon palpation
- Upon arthrocentesis:
  1. Clear non-putrid non-purulent synovium
  2. Less than 2000 WBCs/ul in synovium
- Upon Blood examination: Inflammatory markers (CRP, ESR, procalcitonin, WBC) are NOT elevated

## Radiographic Findings

According to Lawrence and Kellgren, there are 5 important radiographic findings:

1. Joint space narrowing
2. Eburnation; subchondral bony sclerotization
3. Osteophytes formation
4. Joint Synovium thickening and synovial effusion
5. Osteolysis, Osteonecrotic changes and subchondral cyst formation

These findings are usually sequential with the narrowing of the joint appearing early on during the disease and cysts appearing late.

## Classification of Osteoarthritis

**Classification according to *severity* based on the above mentioned X-ray findings:**

I. narrowing of the joint space

II. narrowing of the joint space, subchondral sclerosis on X-ray, formation of osteophytes

III. narrowing of the joint space, subchondral sclerosis on X-ray, deformation of the joint socket and head, osteophytes

IV. disappeared joint clefts, subchondral sclerosis on X-ray, deformities, cysts, osteophytes

## Localization

Osteoarthritis is mostly a localized degenerative disease affecting with particular joints being more likely to be affected than others. These are:

1. Hip
2. Knee
3. Vertebral (Spondyloarthroses, Spondylosis)
4. PIP (Proximal Inter Phalangeal) joints: Bouchard's Nodes
5. DIP (Distal Inter Phalangeal) joints: Heberden's Nodes

## Pathogenesis

- Early changes of the disease are characterized by the microscopic and histological changes seen at the level of the articular hyaline cartilage; necrosis of chondrocytes, drying of cartilage, disintegration of collagen type II fibers...
- The loss of cartilage exposes the bony surfaces and upon motility, the bony surfaces rub against one another. This explains the stress induced eburnation and osteophytes production.
- The loss of cartilage and the degenerative bony changes irritates also the synovium resulting in synovitis and joint effusion.
- Terminal results include the necrosis of bone manifested by cystic changes subchondrally.

## Diagnosis

Diagnosis is done by combining the clinical and radiographic findings.

## Treatment

náhled|Totální endoprotéza v kyčli

### Pharmacological:

- Corticosteroids ; injected intraarticularly. No more than 3 times a year. MUST BE ABSOLUTELY ASEPTIC CONDITIONS
- NSAIDs; eg ibuprofen, diclofenac, coxibs...
- Viscosupplementation: Symptomatic Slow Acting Drugs in Osteo-Arthritis (hyaluronic acid, chondroitin sulfate)

**Surgical:** Correction Osteotomy, Arthroplasty, Synovectomy, Arthrodesis.

### Physiotherapy and Rehabilitation

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## Prevention

- In all secondary arthritis, the cause is eliminated;
- screening for congenital hip dysplasia in neonates;
- reduction of meniscectomy;
- correcting unequal limb lengths;
- synovitis treatment;
- maintaining an adequate body weight;
- prevention of long-term unilateral overloading of certain joints;
- in case of a slight initial disability (so-called prearthrosis) movement, preferably swimming or cycling.

## Summary video

náhled|střed|upright=1.8|Video v angličtině, definice, patogeneze, příznaky, komplikace, léčba.

References

Kategorie:Vnitřní lékařství Kategorie:Revmatologie Kategorie:Ortopedie Kategorie:Patologie Kategorie:Články s videem