Difference Between Arthritis and Carpal Tunnel Syndrome

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Key Difference - Arthritis vs Carpal Tunnel Syndrome

Arthritis can be defined as inflammation of the joint or joints resulting in pain and disability, joint swelling, and stiffness. On the other hand, carpal tunnel syndrome is a common mononeuropathy which is due to the entrapment of median nerve at the wrist. Arthritis, as mentioned in the definition, is due to the inflammation of one or more joints and it has systemic manifestations. But carpal tunnel syndrome (CPS) is secondary to the compression of median nerve inside the carpal tunnel, and there is no any associated inflammation. CPS does not have any systemic manifestations. This is the key difference between arthritis and CPS.

What is Arthritis?

Arthritis can be defined as inflammation of the joint or joints resulting in pain and disability, joint swelling, and stiffness. It can be due to numerous causes such as infection, trauma, degenerative changes or metabolic disorders. Different types of arthritis have been described according to the peculiar characteristics seen in each category.

Osteoarthritis

Osteoarthritis is the commonest type of arthritis. It occurs as a result of the damages to the articular cartilage induced by a complex interaction of genetic, metabolic, biochemical and biomechanical factors. This gives rise to an inflammatory response affecting the cartilage, bone, ligaments, menisci, synovium, and capsule.

Usually, the incidence of osteoarthritis before 50 is uncommon but not unheard of. With the advancing age, some radiological evidence will appear indicating the likelihood of getting osteoarthritis in the future.

Predisposing Factors

- Obesity
- Heredity
- Polyarticular OA is more common in women
- Hypermobility
- Osteoporosis
- Trauma
• Congenital joint dysplasia

Clinical Features

• Mechanical pain with movement and/or loss of function
• Symptoms are gradual in onset and progressive
• Short-lived morning joint stiffness
• Functional limitation
• Crepitus
• Bony enlargement

Investigations and Management

On blood testing, ESR is usually normal, but CRP level is slightly elevated. X-rays are abnormal, only in the advanced disease. MRI can observe early cartilage injury and meniscal tears.

During the management of osteoarthritis, the aim is to treat the symptoms and disability, not the radiological appearances. Pain, distress, and disability can be reduced, and proper patient education can increase compliance with the treatment of the disease and its effects.

Rheumatoid Arthritis

Rheumatoid arthritis is a type of inflammatory arthritis that causes synovial inflammation. It presents with inflammatory symmetrical polyarthritis. Rheumatoid arthritis is an autoimmune disease where auto antibodies are produced against IgG and citrullinated cyclic peptide.

The typical presentation of rheumatoid arthritis includes a progressive, symmetrical, peripheral polyarthritis which occurs over a period of a few weeks or months in patients between 30 and 50 years of age. Most of the patients complain of pain and stiffness of small joints of the hands (metacarpophalangeal, proximal interphalangeal) and feet (metatarsophalangeal). Distal interphalangeal joints are usually spared.

Diagnosis of RA can be made based on the clinical observations. NSAIDs and analgesics are used in the management of the symptoms. If synovitis persists beyond six weeks, try to induce remission with intramuscular depot methylprednisolone 80-120mg. If synovitis recurs, the administration of Disease Modifying Anti-Rheumatic Drugs (DMARDs) should be considered.

Spondyloarthritis

Spondyloarthritis is a collective term that is used to describe several conditions which affect the spine and peripheral joints with familial clustering and a link to type 1 HLA antigen. Ankylosing spondylitis, psoriatic arthritis, reactive arthritis, post-dysenteric reactive arthritis and enteropathic arthritis are included in this category.
Clinical Features of ankylosing spondylitis;

- Back pain
- Pain in one or both buttocks
- Retention of the lumbar lordosis during spinal flexion

Regular NSAIDs to improve the signs and symptoms and morning exercises aiming at the maintenance of the spinal morbidity, posture and chest expansion are often required in the management of the disease.

![Image of healthy and rheumatoid arthritis joints]

Figure 01: Arthritis

Clinical Features of Psoriatic Arthritis;

- Mono- or oligoarthritis
- Polyarthritis
- Spondylitis
- Distal interphalangeal arthritis
- Arthritis mutilans
What is Carpal Tunnel Syndrome?

This is a common mononeuropathy which is due to the entrapment of median nerve at the wrist. Although it is not associated with any underlying disease most of the time, carpal tunnel syndrome can be seen as a manifestation of the following conditions also.

- Hypothyroidism
- Pregnancy (especially in the third trimester)
- Acromegaly
- Rheumatoid disease

Clinical Features

- Nocturnal tingling in hand or/and forearm. The pain is usually a delocalized one
- Weakness and wasting of the thenar muscles
- Passive maximal wrist flexion provokes pain
- A tingling sensation occurs when the flexor aspect of the wrist is tapped

Management

- Steroid injection or strapping a splint can minimize the symptoms in mild cases
- Surgical decompression of the carpal tunnel is the definitive treatment
- In pregnancy the condition is self-limiting
What is the Similarity Between Arthritis and Carpal Tunnel Syndrome?

- Both conditions are associated with a troublesome pain and discomfort.

What is the Difference Between Arthritis and Carpal Tunnel Syndrome?

<table>
<thead>
<tr>
<th>Arthritis vs Carpal Tunnel Syndrome</th>
<th>Cause</th>
<th>Disease Type</th>
<th>Clinical Features</th>
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<tbody>
<tr>
<td>Arthritis can be defined as inflammation of the joint or joints resulting in pain and/or disability, joint swelling, and stiffness.</td>
<td>Carpal tunnel syndrome is due to the compression of median nerve during its passage through the carpal tunnel.</td>
<td>Carpal tunnel syndrome per say is not a systemic disease but can be a manifestation of systemic diseases such as hypothyroidism, rheumatoid arthritis, and acromegaly.</td>
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Clinical features of arthritis vary according to the variant that the patient is having. But joint pain, swelling, tenderness and morning stiffness are the common features found in most of the forms of arthritis.
Summary - Arthritis vs Carpal Tunnel Syndrome

Arthritis can be defined as inflammation of the joint or joints resulting in pain and/or disability, joint swelling, and stiffness. This is a common mononeuropathy which is due to the entrapment of median nerve at the wrist. Although arthritis is a systemic disease, carpal tunnel syndrome is not a systemic disease. This is the difference between the two disorders.

Reference:


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