Osteoarthritis is classified according to the etiology of the condition. It is divided into a primary and secondary non-inflammatory arthritic condition. The recognition of secondary osteoarthritis is clinically significant because it may represent the first stage of treatment.

Osteoarthritis (primary) is a degenerative non-inflammatory condition of the joint characterized by deterioration and abrasion of the articular tissue and concomitant remodeling of the underlying subchondral bone due to overload on the remodeling mechanism. Osteoarthritis (secondary) is a degenerative condition of the joint characterized by deterioration and abrasion of the articular tissue and the concomitant remodeling of the underlying subchondral bone due to a prior event or disease that overload the remodeling mechanism.

Clinical characteristics include: pain with function, point tenderness with palpation, limited range of motion with deviation to the affected side on opening and crepitus or multiple joint noises. Radiographically, evidence of structural bony changes (subchondral sclerosis, osteophytic formation, erosion). Pain and dysfunction can vary depending on the degree of inflammatory and morphologic changes. Studies suggest that the course of the disease usually progresses favorably allowing remodeling and adaptation. Treatment must be rendered on a case specific basis depending upon the degree of pain and dysfunction.

The most common differential diagnoses to consider; inflammation, polyarthritis, neoplasia. Osteoarthritis (secondary) is a degenerative condition of the joint characterized by deterioration and abrasion of the articular tissue and the concomitant remodeling of the underlying subchondral bone due to a prior event or disease that overload the remodeling mechanism.

Clinical characteristics include: pain with function, point tenderness with palpation, limited range of motion with deviation to the affected side on opening and crepitus or multiple joint sounds. Potential etiological factors include direct trauma to the TM joint (traumatic arthritis), local TMJ infection or history of active systemic arthritis (e.g., rheumatoid arthritis). Ankylosis is clinically characterized by the restriction of a mandibular movement with deviation to the affected side on opening and is usually not associated with pain. Fibrous adhesions occur mainly in the superior compartment of the TM joint, affecting the translation movement of the affected condyle. Adhesions can occur secondary to joint inflammation resulting from trauma or systemic conditions such as polyarthritic disease. Bony ankylosis can lead to a complete immobility of the TM joint. Clinically, evidence of bone proliferation is appreciated radiographically. Patient demonstrates deviation to the affected side and significant limited movement to the contralateral side.

Fracture is direct trauma to the mandible and may result in fracture to the condylar process. All related components of the masticatory system — soft tissue, disc, capsule, synovial and extracapsular surface — may also be affected. Condylar fractures are usually unilateral and may occur in the condylar neck or in the capsule (intra- or extracapsular) with or without displacement. Location of the fracture and degree of the function will determine the direction of displacement.

A displacement anterior-medial-inferior usually results due to the action of the lateral pterygoid muscle. Clinical characteristics include: associated trauma, preauricular pain and swelling (synovitis, capsulitis), limited opening, and if the condylar fragment is displaced, occlusal changes and deviation to the affected side.

The development of adhesions and osteoarthrosis are common findings implicated in condylar fractures. This article originally appeared in Dental Tribune Asia Pacific Vol 5, No. 10, October 2007.

References