Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a common form of inflammatory arthritis, with a female-to-male ratio of 3: 1.

It is a chronic disease characterized by a clinical course of exacerbations and remissions of erosive arthritis.

Clinical features

The typical presentation is with **pain**, joint **swelling** and **stiffness** affecting the small joints of the hands, feet and wrists in a **symmetrical** fashion.

Large joint involvement.

Systemic symptoms and extra-articular features may also occur.

Characteristic **deformities** may develop with long-standing uncontrolled disease. They include ulnar deviation of the fingers, 'swan neck' deformity, the boutonnière or 'button hole' deformity, and a Z deformity of the thumb.

Systemic

• Fever

• Weight loss

• Fatigue

• Susceptibility to infection

Haematological

• Anaemia

• Splenomegaly

Ocular

• Keratoconjunctivitis sicca

Vasculitis

• Ulcers

• Pyoderma gangrenosum

• Mononeuritis multiplex

Cardiac

• Pericarditis

• Myocarditis

• Conduction defects

• Coronary vasculitis

Pulmonary

• Pleural effusions

• Fibrosing alveolitis

• Bronchiolitis

Neurological

• Cervical cord compression

• Compression neuropathies

Oral and dental problems associated with Rheumatoid arthritis:

A number of oral manifestations have been described in rheumatoid arthritis patients. These include:

1- The well recognized association with Sjogren's and xerostomia.
2- Temporomandibular diseases:

- People with RA have a higher frequency and greater severity of temporomandibular dysfunction (TMD) than the normal population.
- The estimated prevalence of TMJ symptoms in adults with RA is between 5–86% (depending on diagnostic criteria, assessment methods and the population studied) with clinical involvement of the TMJ seen in about 50% of cases.
- RA patients with TMD may present with pain, difficulty with opening the mouth, 'locking' of the jaw, tenderness of the TMJ/masticatory muscles, and joint sounds.

- Juvenile idiopathic arthritis (JIA), also known as juvenile rheumatoid arthritis, the reported prevalence of TMJ arthritis in JIA ranges from 17 to 87%. TMJ arthritis in children can cause a disturbance of mandibular growth and evident alterations in craniofacial morphology and occlusion; features typically seen include an increased profile convexity, a steeper mandibular plane angle, mandibular micrognathia and retrognathia.

3- Methotrexate-induced ulcers. A folic acid supplementation can help with reducing ulcers.

4- An increasing emphasis on periodontal disease: Periodontal disease (PD) is a chronic inflammatory condition which leads to destruction of the periodontal ligament and alveolar bone, and can result in tooth loss.

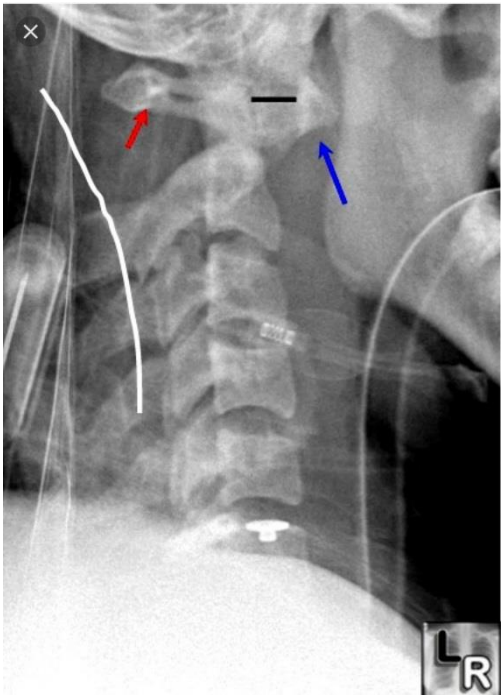
- PD is caused by the presence of pathogenic gram-negative anaerobic bacteria within the biofilm attached to the sub-gingival tooth surface. Porphyromonas gingivalis (Pg) is the main pathogen in PD.
- A number of large epidemiological studies and smaller case–control and cohort studies have been published showing associations between rheumatoid arthritis and periodontal disease.
- Some studies have reported that periodontal disease severity tracks with rheumatoid arthritis disease activity.

- The level of Pg antibodies has been found to positively correlate with levels of ACPA in circulation in RA.
- Effective control of PD for RA patients is important to reduce both local and systemic inflammation.

5- Different oral Infections can also occur:
   - Bacterial infections can cause swelling around tooth or over the jaw, severe pain, fever, and swollen nodes around jaw
   - Fungal infections can cause a white coating or clumping that can develop on the tongue or around the inside of cheeks.

6- Due to pain, impaired hand function and fatigue, RA patients may find it difficult and lack the motivation to follow a good oral hygiene regime (leading to further unfavorable outcomes)

General considerations



- Chronic inflammation of the cervical spine in RA can result in neck instability, which can cause neurological symptoms and in rare cases be fatal. It is therefore important that a patient's head and neck are well supported during dental treatment. Suspected cervical instability should also be discussed with the patient's rheumatologist.

- If prescribing NSAIDs, check what the patient is already taking and assess toxicity risk.
- Some RA patients take oral bisphosphonates for the prevention or treatment of osteoporosis; therefore, there is a small risk (estimated at 0.5%) of osteonecrosis of the jaw following dentoalveolar surgery. This risk can be increased with concomitant use of corticosteroids, and in some cases bisphosphonates may need to be stopped at least two months prior to surgery.
- Biologic DMARDs should be stopped much before major surgical procedures (according to the half-life of drug) so as not to increase infection risk. Conventional DMARDs may need to be stopped prior to procedures

which last over an hour and it is recommended corticosteroid exposure be minimised prior to surgery. Therefore it is important to consult with the patient's rheumatologist well in advance of any planned invasive procedures and to follow up the patient postoperatively.

Table 3 Suggestions to make dental visits more comfortable for RA patients[93,94]

Before treatment	Organise appointments at times more suitable for the patient's condition; for example, if they experience morning stiffness, schedule visits for the afternoon.
	Make shorter, more frequent appointments rather than lengthy visits where patients can experience stiffness in the dental chair.
	Book a treatment room with step-free access.
During treatment	Adjust the dental chair and headrest to a comfortable position, as RA patients can get considerable neck pain and stiffness during treatment.
	Offer the patient a small pillow or allow them to bring their own.
	Allow the patient to rest and move their jaw periodically during treatment to prevent pain, fatigue and stiffness from keeping their jaw open for prolonged periods.
	Reassure the patient that they can ask to take a break at any time.
	Ask the patient if they require any other adjustments.