

salivary amylase and rheumatoid factor may be present. Anti-SS-A antibodies tend to show high sensitivity in Sjögren syndrome, and anti-SS-B antibodies tend to show high specificity for Sjögren syndrome.

Diagnosis

Currently, Sjögren syndrome is diagnosed by clinical features according to diagnostic criteria established by European diagnostic criteria (Table 12.11).

Treatment

The main treatments are symptomatic therapies, because no effective pharmacologic therapy is available. Mouthwash, treatment for periodontal disease, and administration of artificial saliva and of artificial tears for protection of the cornea are the main therapies. Large doses of internal steroids and immunosuppressants are administered in severe cases in which systemic angio-pathic lesion or malignant lymphoma occurs as a complication.

D. Rheumatic diseases with arthritis

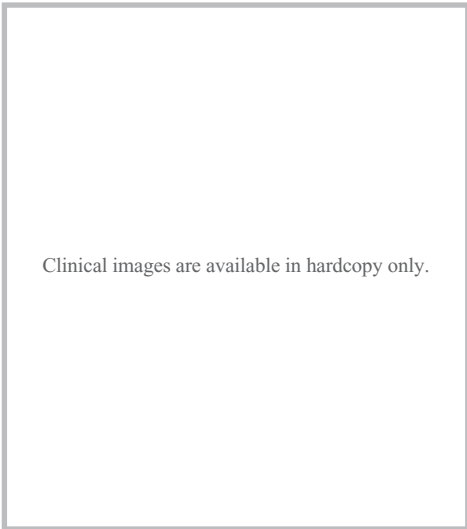


Fig. 12.18 Rheumatoid vasculitis.

1. Rheumatoid arthritis (RA) ★ ★

Outline

- This collagen disease causes sharp pain and swelling in the joints.
- Rheumatoid nodules and cutaneous lesions accompanying vasculitis are found.
- Chronic inflammation occurs in the synovial membranes of joints. The articular cartilages and bones are destroyed by synovial proliferation.
- Diseases closely related to RA include juvenile rheumatoid arthritis, adult Still disease, ankylosing spondylitis, psoriatic arthritis and Reiter syndrome.

Clinical features

The primary disease of rheumatoid arthritis (RA) is symmetrical arthritis. In dermatology, RA is characterized by rheumatoid nodules and cutaneous lesions that accompany vasculitis (Fig. 12.18). Rheumatoid nodules are found in 20% to 25% of patients with RA. The nodules, 0.5 cm to several centimeters in diameter, are painless, solid, subcutaneous nodules frequently produced on sites where the skin is subjected to pressure, such as the knees, hips, Achilles tendons and occipital region. They persist for a long time, sometimes rupturing and causing secondary infection. Ulceration on the fingertips and elsewhere, gangrene, purpura, blistering, and livedo accompany rheumatic vasculitis. RA is usually accompanied by extracapsular symptoms, such as pericardial

inflammation, interstitial pneumonitis, peripheral neuritis and uveal inflammation.

Pathology

Three-layered palisading granuloma is found at sites with rheumatoid nodules. This granuloma is fibrinoid degeneration of collagen fibers surrounded by histiocytes, which is further surrounded by inflammatory cells such as lymphocytes and plasma cells (Chapter 2). In rheumatic vasculitis, immunocomplex deposition is seen on the vascular walls at sites where lesions have occurred, and obstructive changes are often caused by thickening of endothelium and leukocytoclastic vasculitis.

Laboratory findings

Inflammatory findings such as elevated erythrocyte sedimentation rate, leukocytosis, thrombocytosis, CRP positive, and increases in human immunoglobulins and complement titer are seen. Rheumatoid factors (mainly IgM antibodies that react against abnormally produced IgG) are positive in 80% to 90% of RA cases. The degree of progression of RA can be determined by diagnostic imaging.

Diagnosis

The diagnostic criteria are listed in **Table 12.12**.

Treatment

Besides pharmacologic therapies such as NSAIDs, treatments for RA include disease-modifying anti-rheumatic drugs (e.g., DMARDs such as gold preparations, D-penicillamine, methotrexate) and steroids. Biological agents such as infliximab, adalimumab and etanercept are now covered by health insurance in Japan. Rehabilitation and lifestyle guidance are also important.

2. Adult Still disease ★
★

Synonyms: Subsepsis allergica, Wissler-Fanconi syndrome

Outline

- The three main symptoms are salmon-pink rheumatoid eruptions, intermittent and remittent fever, and arthritis.
- The laboratory findings are elevated erythrocyte sedimentation rate, leukocytosis, rheumatoid factor negative and marked increase in ferritin.

Clinical features

Adult Still disease most frequently occurs in young women aged 16 to 35. Fever, arthritis, and specific cutaneous symptoms are found.

Cutaneous symptoms: Salmon-pink rheumatoid eruptions occur on the trunk, extremities and face (**Fig. 12.19**). Itching is not usually present.

Table 12.12 1987 revised criteria for the classification of rheumatoid arthritis.

1. Morning stiffness lasting at least 1 hour
2. Arthritis of 3 or more joint areas
3. Arthritis of hand joints (at least 1 area swollen in a wrist, MCP, or PIP joint)
4. Symmetric arthritis
5. Rheumatoid nodules
6. Serum rheumatoid factor
7. Radiographic changes

For classification purposes, a patient shall be said to have rheumatoid arthritis if he/she meets 4 of these 7 criteria. Criteria 1 through 4 must have been present for at least 6 weeks.

(American college of Rheumatology Classification Criteria of Rheumatoid Arthritis [1987]).

Clinical images are available in hardcopy only.

Clinical images are available in hardcopy only.

Fig. 12.19 Adult Still disease.

Other symptoms: Intermittent fever persists for more than a week, rising in the evening and at night and falling in the morning (evening spike). Arthritis occurs in the large joints (hands, knees, feet, elbows) in all cases. Splenomegaly, lymph node enlargement, epicarditis, and myalgic and pharyngeal pain also occur.

Laboratory findings

Elevated erythrocyte sedimentation rate, strong positive CRP, anemia, leukocytosis and increase of complement titer are caused by inflammation. Negativity of antinuclear antibodies and rheumatoid factor differentiates this disease from other collagen diseases. Adult Still disease is characterized by elevated levels of serum ferritin, which may be ten times the normal level. The ferritin level indicates the disease's degree of activity.

Treatment

Mainly oral steroids and NSAIDs are administered. Antibiotics are ineffective. The effectiveness of treatment is measured by the CRP and serum ferritin values.

Prognosis

The life expectancy for adult Still disease is good. Amyloidosis may occur.

3. Juvenile rheumatoid arthritis (JRA) ★ ★

Juvenile rheumatoid arthritis (JRA) is thought to be the same as Still disease when the patient is under age 16. The pain is relatively mild. It is the most common pediatric collagen disease. Chronic synovitis, morning stiffness and rheumatoid eruptions are found. Since the rheumatoid factor is negative, JRA is thought to differ in etiology from RA.

JRA is divided into systemic (Still disease; the main symptoms are extracapsular), polyarticular (accounting for 30% of all children with JRA; five or more joints are affected), and pauciarticular (accounting for about half of all children with JRA; four or fewer joints are affected). In systemic JRA, intermittent and remittent fever precedes rheumatoid eruptions or arthritis. Lymph node enlargement, splenohepatomegaly, pericarditis and pleuritis may also occur. Arthritis is the main symptom in both polyarticular JRA and pauciarticular JRA; other symptoms rarely occur.

Elevated erythrocyte sedimentation rate, positive CRP and leukocytosis are present as findings of inflammation; however, there are few findings that are specific to JRA. Seventy to eighty percent of patients with JRA heal without any serious disorders. Pauciarticular JRA has the best prognosis of the three types.

4. Reiter's disease ★ ★

Outline

- Men aged 10 to 30 are most frequently affected. After prodromes such as diarrhea, the three characteristic symptoms of polyarthritis, urethritis and conjunctivitis occur.
- Erythema, pustules, and hyperkeratosis occur in the palms and soles. Balanitis circinata is produced.
- Reiter's disease is closely related to HLA-B27.
- It heals spontaneously within 6 months in most cases.

Clinical features

Men in their 20s are most commonly affected. The incidence is 20 males to 1 female. Inflammatory symptoms such as urethritis (or uterocervical inflammation; most cases are sexually transmitted) and bacterial diarrhea precede Reiter's disease. When the prodromes subside, arthritis, conjunctivitis and cutaneous symptoms appear. Erythema or papules are produced in the palms and soles, coalescing to form hyperkeratotic nodules. The lesions are accompanied by pustules. Balanitis circinata (painless shallow erosion) and keratosis in nails also occur.

Laboratory findings

HLA-B27 is positive in 90% of cases. The disease cannot be pathologically differentiated from psoriasis. Calcification is observed in the calcanei, fingers and phalanx regions by X-ray. Sacroiliac articulation and ossification in the vertebral ligament may be found. The lesions caused by Reiter's disease are unilateral; differentiation from ankylosing spondylitis is possible.

Treatment

NSAIDs are used primarily. Steroids and immunosuppressants may be administered in severe cases.

Prognosis

Arthralgia recurs; however, most cases subside in about 6 months.