

Rheumatoid Arthritis:

- systemic chronic inflammatory disorder

Etiology

- Genetic factors →
HLA-DRB1 polymorphism is PTPNN22
- env factors → smoking, microbial Agents.
- Autoimmunity → Autoimmune Rⁿ with T cell is
Responsible for chronic destructive nature

PATHOGENESIS:

Genetic factors

HLA gene (HLA-DRB1)

non HLA gene (PTPN-22)

↓
Failure of self tolerance

↓
Unregulated Activation
of lymphocytes

CD4⁺ cell

TH1

CD4⁺ cell

TH17

B cell Response

plasma cell

Auto Antibodies

↓
Activation of inflammation.

↓
Recruitment of macrophages

↓
Tissue injury

↓
Activation of synovial cells

↓
Release of proteolytic enzymes.

(collagenase, stromelysin, elastase etc)

↓
Destruction of bone

pannus

↓
fibrosis

↓
edema, hyperplasia

IgH Antibodies
Agant
Fc portion of IgG

MORPHOLOGY

JOINTS

Joints involved $\rightarrow$ symmetrical And bilateral,
Proximal interphalangeal, elbow, knee, Ankle

Synovium

$\rightarrow$ edema, thickening And hyperplasia of lining
synovial cells.

$\Rightarrow$ Pannus formation

$\Rightarrow$ synovial hyperplasia $\rightarrow$ finger-like structures

$\Rightarrow$ Dense-inflammatory infiltrate $\rightarrow$ B, cell, plasma cell
macrophages, aggregate to form
lymphoid follicles.

$\Rightarrow$ Rice bodies - Fibrin may float in the synovial space

$\Rightarrow$ Ankylosis

$\Rightarrow$ osteoporosis.

Site $\rightarrow$ elbow, occiput, forearm

Shape $\rightarrow$ Round to oval, firm, nontender

Micro $\rightarrow$ central zone of fibrinoid necrosis.

Blood vessel $\rightarrow$ vasculitis.

C/F $\rightarrow$ small joints, 40 to 70% W/M.

Radiol $\rightarrow$ effusion into the joint, narrowing of the joint space

Deformity $\rightarrow$ Radiol, deviation of the wrist, ulnar deviation of finger

Lab finding $\rightarrow$ Anti-CCP, Anti body, Rheumatic factor.