Butterfly rash

AMERICAN OSTEOPATHIC SOCIETY FOR RHEUMATIC DISEASE

LOOKING AT RHEUMATIC DISEASE

Presented by

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biography

- Certified- family medicine by the AOA,AOBFM
- Certified- rheumatology By the AOA,AOBIM

- Past president of AOCRH(american osteopathic college of rheumatology)

- Past chairman division of rheumatology at cape regional medical center

- President of AOSRD (american osteopathic society of rheumatic disease)

Financial disclosure

- NONE

COURSE OBJECTIVE

- SUPPLY AN INSGHT TO THE EVALUATION OF RHEUMATIC DISEASE
- UPDATE NEWER TERMINOLGY
- UPDATE CLINICAL FINDINGS AND CORRALATE TO LABORATRY EVALUATION
- VIEW BASIC IMMUNE SYSTEM FUNCTION

clinical signs and laboratory testing

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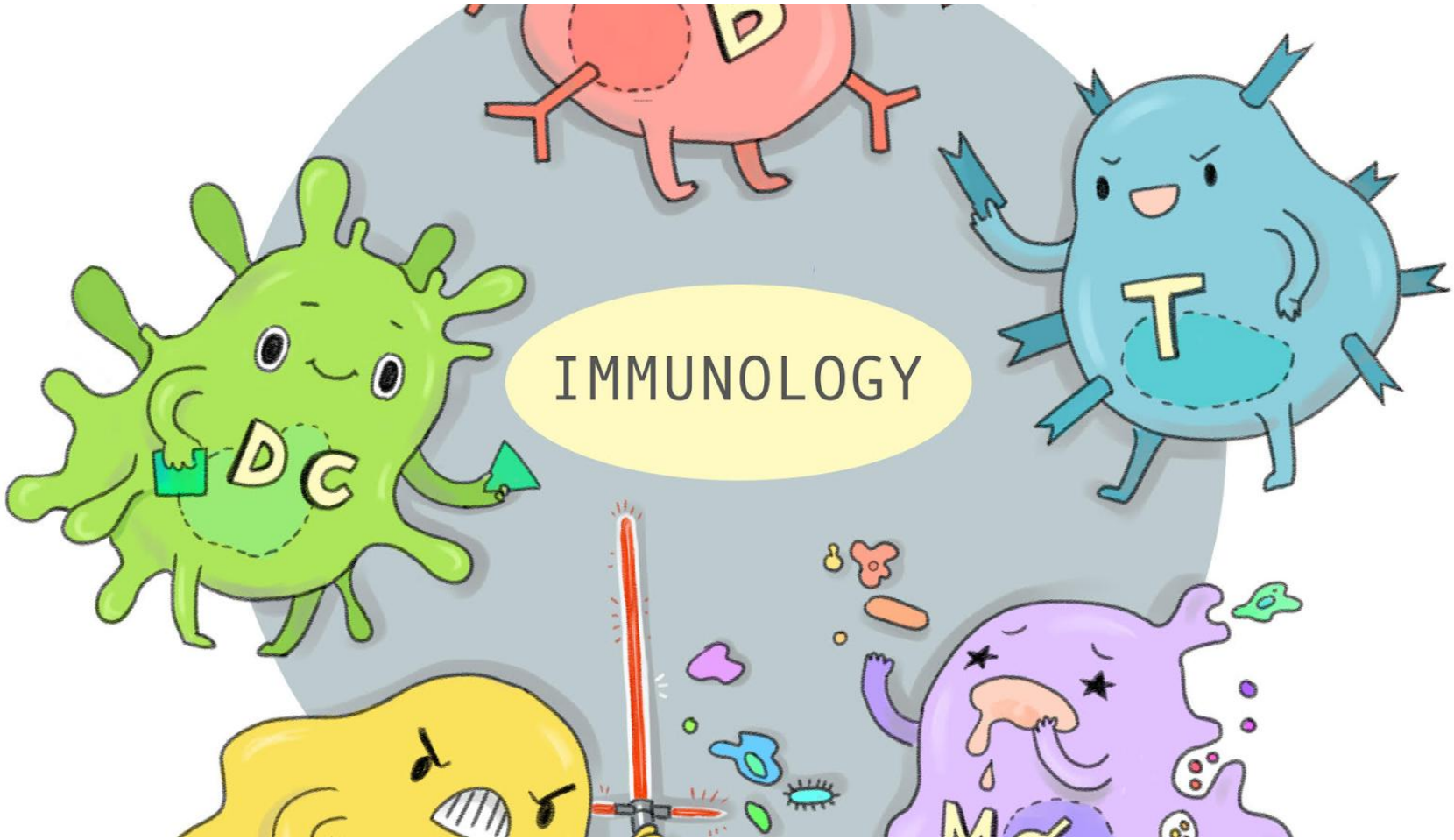
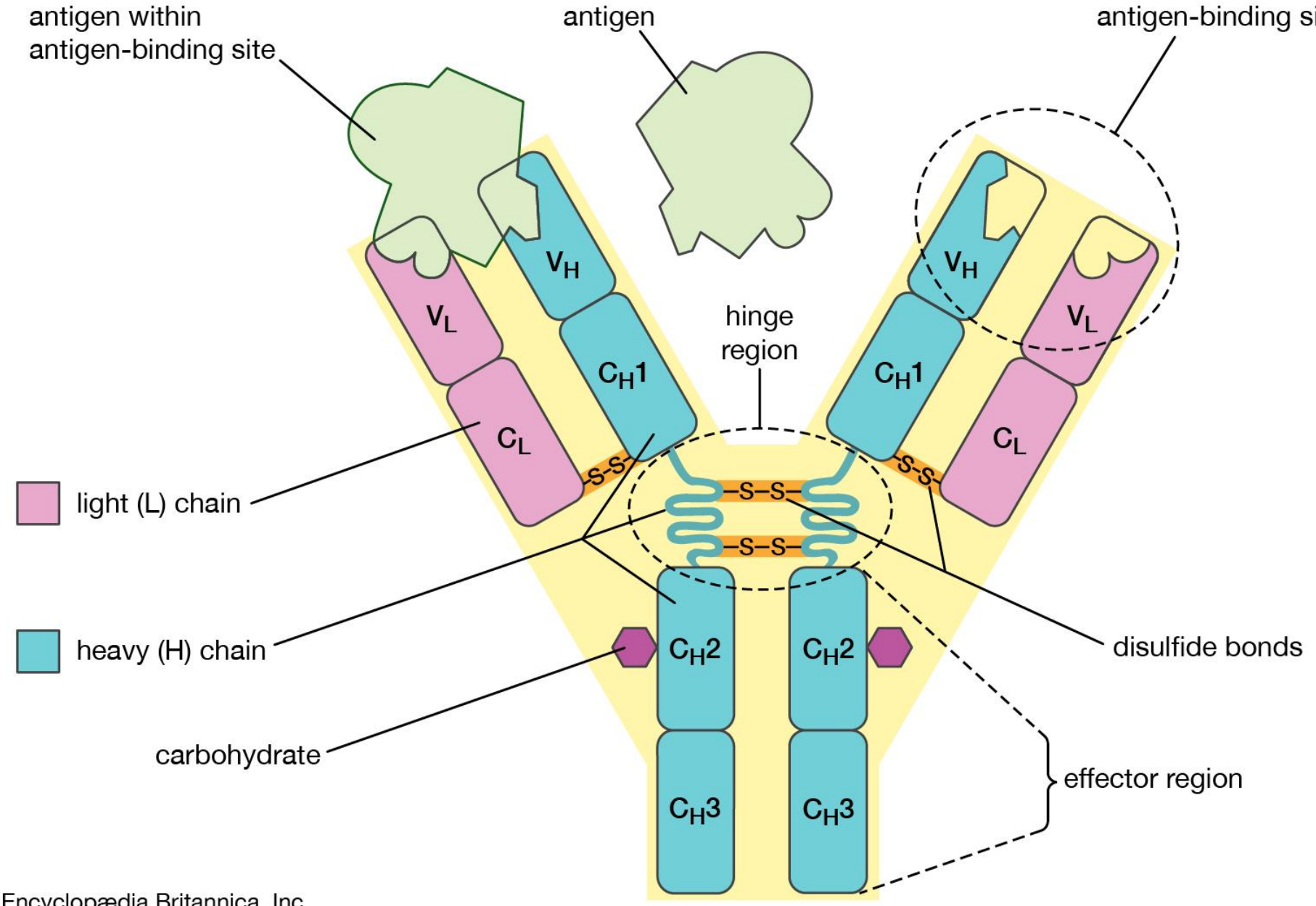
- LETS BEGIN

Newer terms for dmards

- Cs dmard-conventional synthetic- mtx, leflunamide,hydroxychloroquin etc.
- b dmard or bo dmard-biologic original,tnf, il's
- bs dmard- biologic similar, they are not generic drugs,but act in a similar fashion
- Ts dmard-targeted synthetic – PDE4 inhibitors etc.

A brief look at the immune system

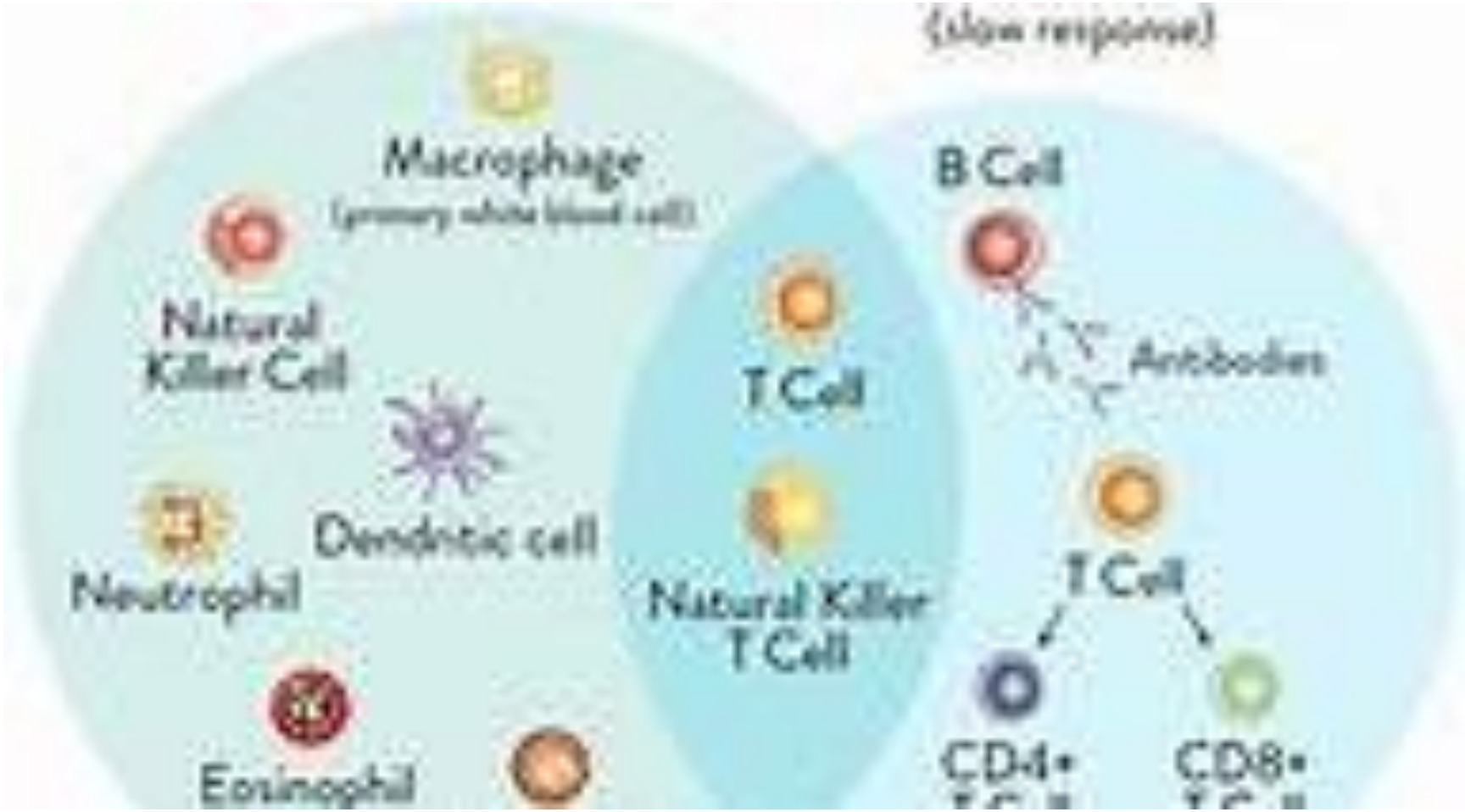




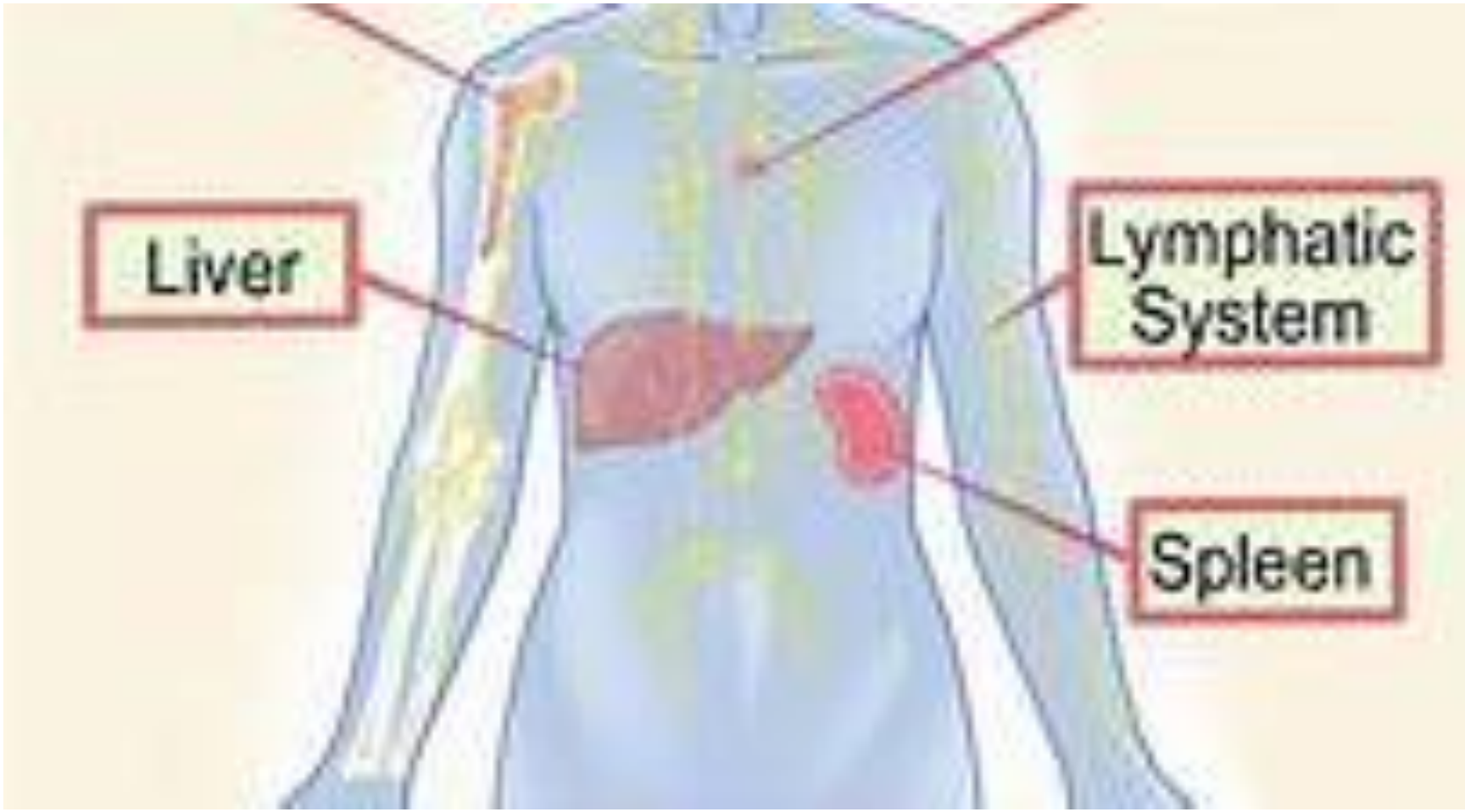
Area on antibody terms

- Fab (frament antigen binding) located on the upper section of the antibody
- Fc (fraction crystalized) located on the lower half of the antibody

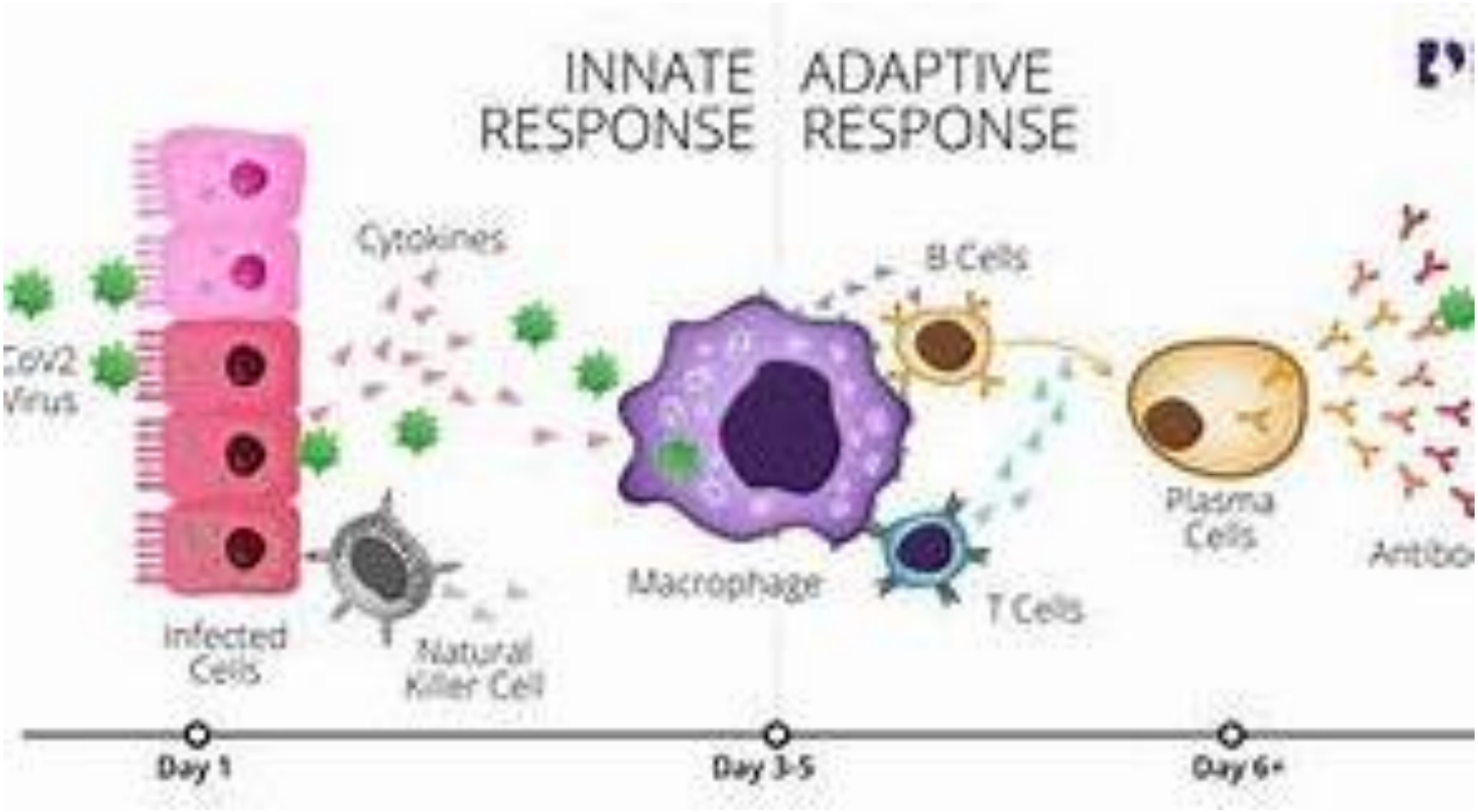
Cells of the immune system



Areas of immune production



Immune


INNATE RESPONSE
ADAPTIVE RESPONSE
Cytokines
B Cells
Plasma Cells
Macrophage
T Cells
Infected Cells
Natural Killer Cell
Day 1
Day 3-5
Day 6+

- **Humoral Immunity**

- Humoral immunity involves the production of antibodies (immunoglobulins), and is brought about by lymphocytes, which are called B-cells. After B-cells are stimulated by an antigen, they proliferate and transform into plasma cells, which produce specific antibodies.
- **Cellular Immunity**

Types of Lymphocytes

T - Lymphocytes

PARTICIPATE IN THE PROCESSES OF CELLULAR IMMUNITY

B - Lymphocytes

PARTICIPATE IN THE PROCESSES OF HUMORAL IMMUNITY

NK - Lymphocytes

NATURAL CYTOTOXICITY AGAINST CANCER CELLS AND VIRUS INFECTED CELLS

Immune cells

- B lymphocyte—produce antibodies (humoral immunity) innate immune system at birth
- T lymphocyte – cd4 ,cd8, nk cells ,helper T cells, suppresor T cells etc (cellular immunity) adaptive immune system, developes after birth in response to stimuli

- **Subsets of B and T lymphocytes**

- They exist with distinct phenotypic and functional characteristics. The major subsets of B cells are follicular B cells, marginal zone B cells, and B-1 cells, each of which is found in distinct anatomic locations within lymphoid tissues. The two major T cell subsets are CD4+ helper T lymphocytes and CD8+ CTLs, which express antigen receptors called αβ T cell receptors (TCRs), and function as the mediators of cellular immunity. CD4+ regulatory T cells are a third subset of T cells expressing αβ receptors; their function is to inhibit immune responses.
- **Natural killer (NK) cells** are lymphoid cells that are closely related to B and T cells. However, they do not express antigen-specific receptors and are considered part of the innate immune system.

- **Cellular Immunity**

- Cellular immunity includes delayed hypersensitivity reactions, graft rejection, graft-versus-host reactions, defense against intracellular organisms, and probably defense against neoplasms. Cellular immunity is mediated by lymphocytes, which we called T-cells.
- T cells secrete chemical messengers called cytokines, which stimulate the differentiation of B cells into plasma cells, thereby promoting antibody production. Regulatory T cells act to control immune reactions, hence their name. Cytotoxic T cells, which are activated by various cytokines, bind to and kill infected cells and cancer cells.

Basic lab testing

- Ana –titer plus reflex cascade
- Cbc
- Urinalysis
- Chem basic
- CRP
- Sed rate
- Uric acid
- Thyroid studies

Basic lab testing

- Vit D
- Ferritin
- Anti-ccp
- Aldolase
- Lyme titer
- LIVER FUNCTION

The ANA cascade

	Antibody							
	ds DNA	ss DNA	Histone	Nucleoprotein	Sm	RNP	Ro	La
SLE								
Sen	70%	80	30–80	58	25–30	45	40	15
Spec	95%		50	mod	mod	99	87–94	
Drug LE								
Sen	1–5%	80	95	50	1%		low	low
Spec		50	high	mod				
RA								
Sen	1%	mod	low	25	1%	47	low	low
Spec		mod		low				
Scleroderma								
Sen	<1%		<1%	<1%	<1%	20		
Spec		low						
PM/DM								
Sen	<1%		<1%	<1%	<1%		low	
Spec		low						
Sjögren's								
Sen	1–5%	mod	low	mod	1–5%	5–60	8–70	14–60
Spec		mod	low	mod			87	94

SLE

Butterfly rash

BUTTERFLY RASH

Mucocutaneous aphthus ulcers

Helpful Lab markers for SLE

- dsDNA (40-60%)
- Chromatin (anti-histone) SLE 48-97% ,
  drug induced SLE (90%)

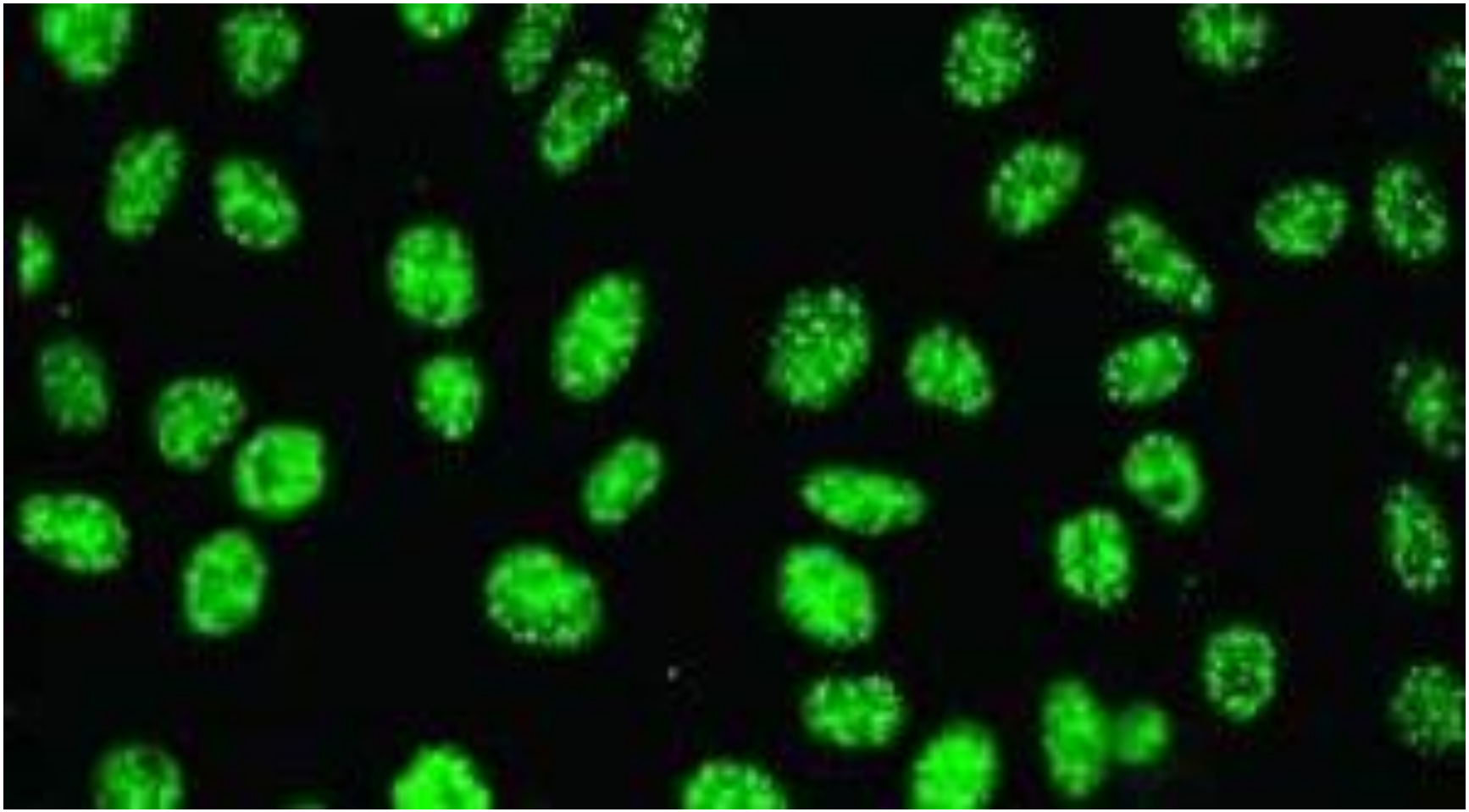
Ribosomal P SLE 10-20%

Sm (anti-smith) SLE 15-30%

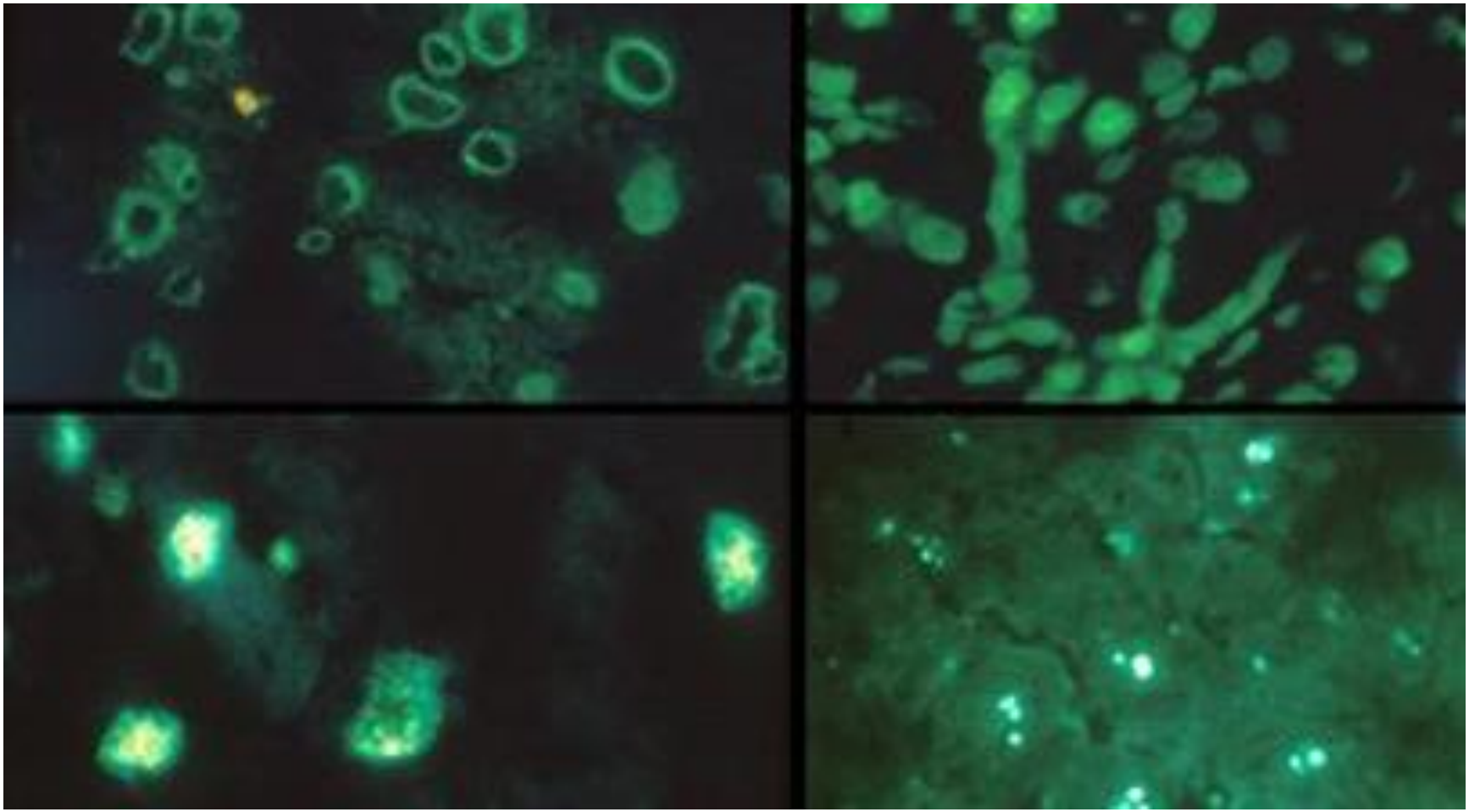
Compliment C3, C4, CH50 (decrease levels = increase activity)

Elevated ESR, C-reactive protein

Centremere (crest syndrome)



Peripheral,diffuse,nucleolar,speckeled



Ankylosing spondylitis

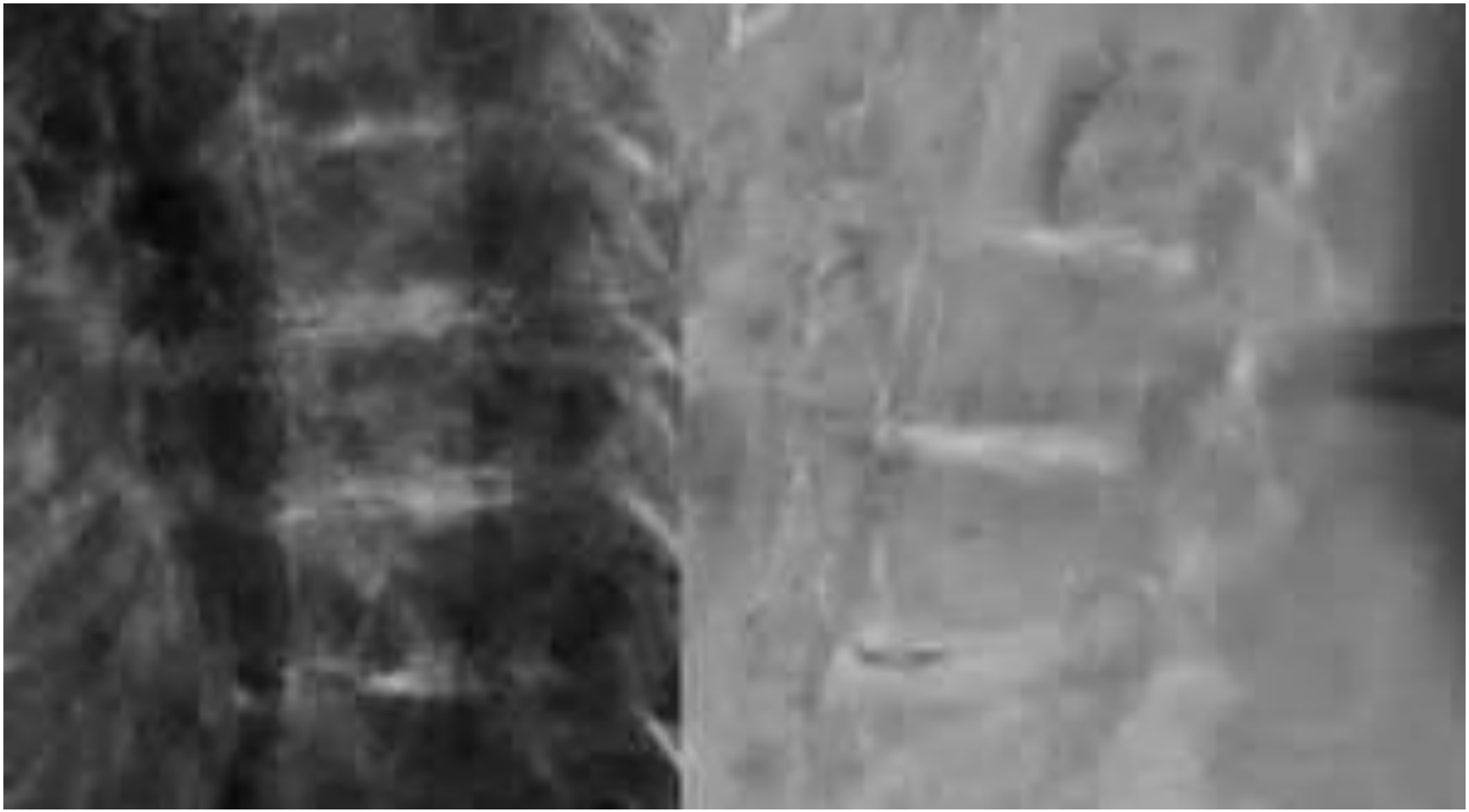
uveitis

Markers for Sero negative arthropathies

- Ankylosing spondolytis, Rieters syndrome, Psoriatic arthritis, Enteric arthropathy
- HLA-B27
- ANA negative
- Anti-ccp negative
- Increase acute phase reactants (ESR, CRP)

Blue color cartilage discoloration

Intervertebral disk involvement



Ohcronosis

- Urine turns dark in light, defect in homogenistic acid production
- Alkaptanuria

Sicca/sjogrens

Tongue in sjogrens

Parotid glands of sjogrens

Sjogren's

SJOGRENS SYNDROME

- SSA (RO) 40-70% also seen in SLE 25-35% and seen in neonatal lupus 100%
- SSB (LA) 30%   SLE only 10%
- ESR,CRP,CBC, Chem profile, LFT’s

Symetrical mcp and pip involvement of RA

Rheumatoid nodules at extensor surface of elbow

RA nodule

Bilateral knee involvment of RA

Rheumatoid Arthritis

- ANA-can be positive
- Anti-CCP
- Rheumatoid factor
- ESR, CRP
- CBC
- Thyroid studies
- Lyme titer
- Ferritin levels

Heliotropic rash

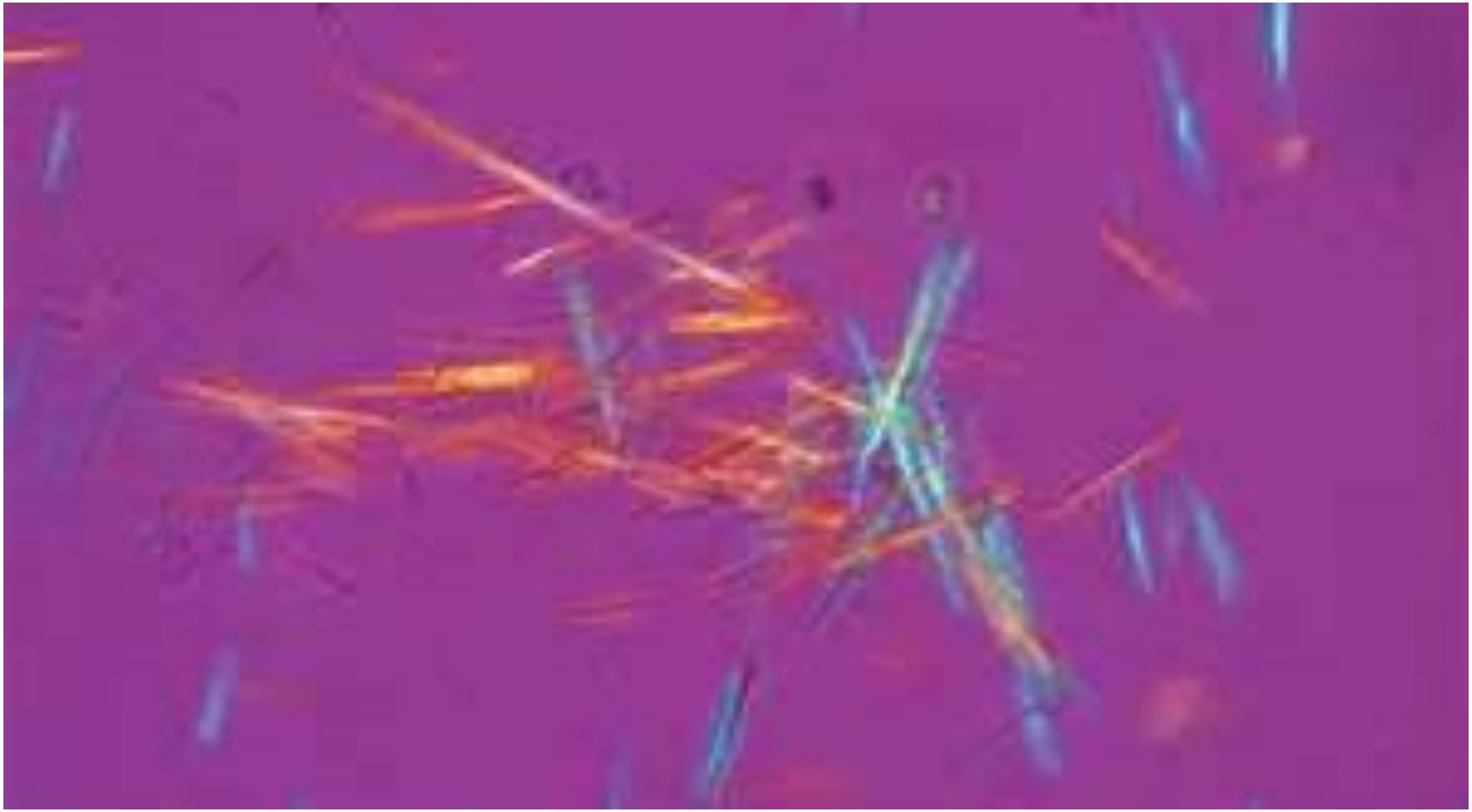
dermatomyocytis/polymyositis

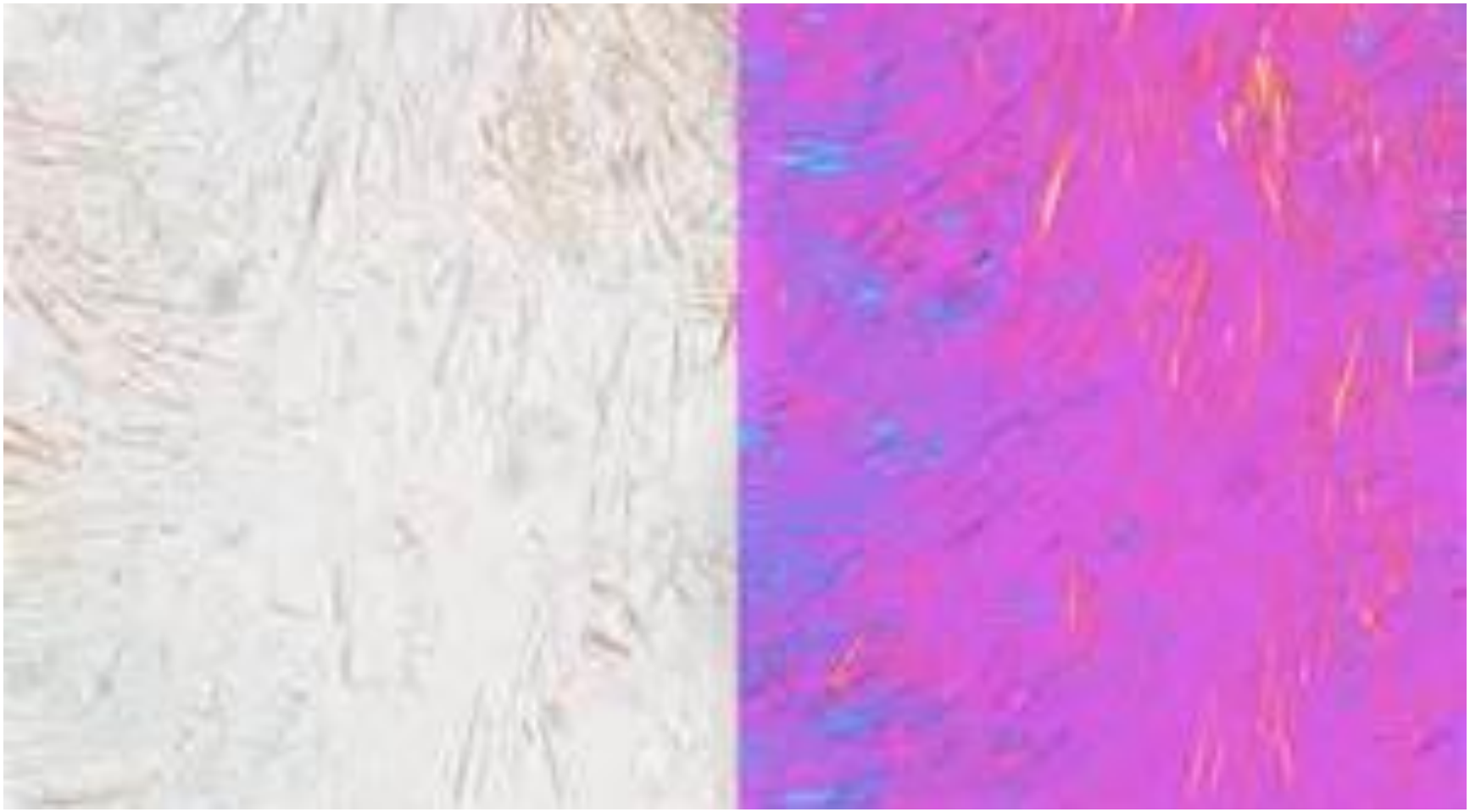
- Jo-1 (20-40%)
- Anti-ribonucleoprotein 20%
- Aldolase
- Myoblobin
- ESR, CRP,CBC,Urine,LFT’s,Chem pofile

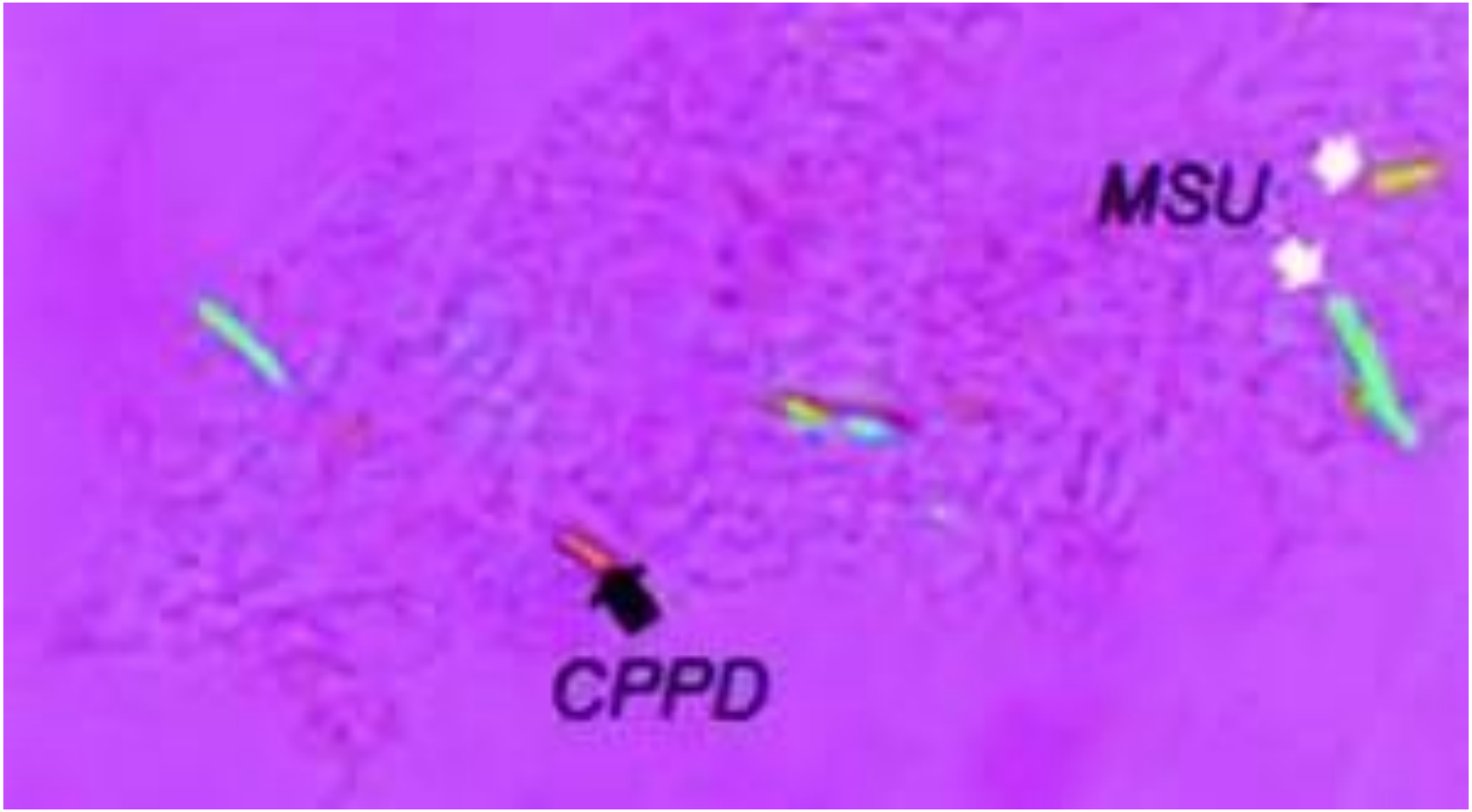
Mtp joint hot and swollen

Gout and Pseudogout

- Serum uric acid
- ESR ,CRP
- CBC, Urine, Chem profile
- Synovial fluid crystals, needle shaped for gout, rhomboid shaped for cppd
- Possible to run 24 hr urinary uric acid






MSU
CPPD

chonrocalcinosis

Purse lips with telangitis

scleradactyl digits with ulceration of scleraderma

Fingertip necrosis in pss

Telangectasis lesion of skin

Scleraderma and Crest syndrome

- ANA
- Scl-70 20-35%
- Centremere B- crest variant 80%
- Ua, CBC, Chem Profile ,ESR,CRP

Raynauds

- Test for autoimmune diseases,thyroid,etc.
- Test for cryoglobulins,(globulins that pricipatate when cooled, clumps up and blocks blood flow.

raynauds

raynauds

PMR

- ESR, CRP,CBC, etc.,ANA with relflex titer

RHUPUS

- Symtoms of lupus and Ra
- Test for SLE and Rheumatoid arthrits

MCTD

- Use testing for SLE, Scleraderma, and polymyositis
- Ana cascade positive for anti-rnp

Hypermobile joints

Elastic skin

Ehlers-Danlos syndrome

- Hereditary , no real lab studies of significance,
- You win the Grand Prize if you got it right.

THE END

- Questions will now be taken if any?

- Thank you for the privilege of speaking with you today.