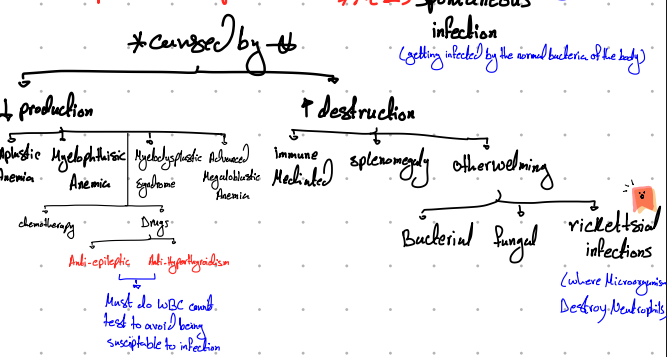


Leukopenia (Deficiency)

Neutropenia (Agranulocytosis)

- pts become susceptible to infections (Mainly **Bacterial** & **Fungal**)

* Neutrophil count drops $< 500 \text{ cells}/\mu\text{L} \Rightarrow$ Spontaneous infection (getting infected by the normal bacteria of the body)



White Blood Cell Disorders

proliferation

(More common than Leukopenia)

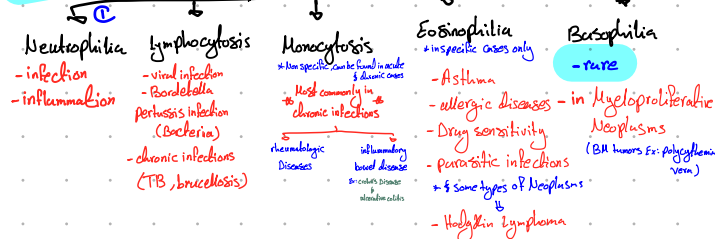
Leukocytosis

* ↑ # of WBC in peripheral blood (any cause)

if Benign

Reactive Leukocytosis

Most common



Leukemia

* ↑ # of WBC in peripheral Blood

2° to Neoplastic Disease

Enlargement of LW

Reactive Lymphadenitis

Benign proliferation

(Antigenic stimulation)

- 2° to a stimulus (Normal reaction)

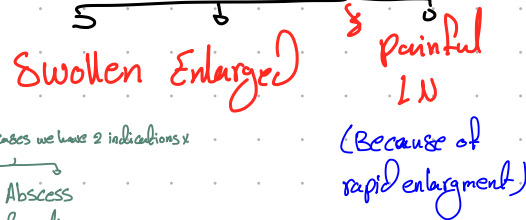
* a result of antigenic stimulation in LW that causes enlargement

- can be localized or generalized (in specific LW) (all over the body)

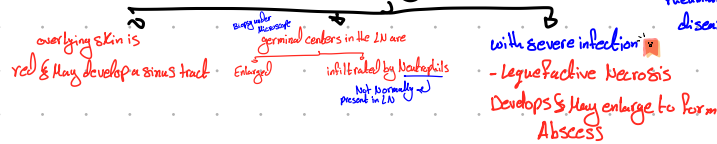
* Enlargement could be *

Acute Non-specific Lymphadenitis

* Pts complain of



* Signs

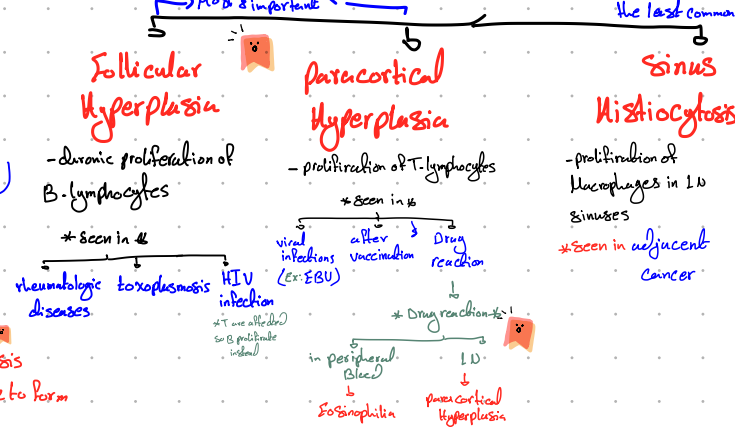


* Painless due to gradual LW enlargement

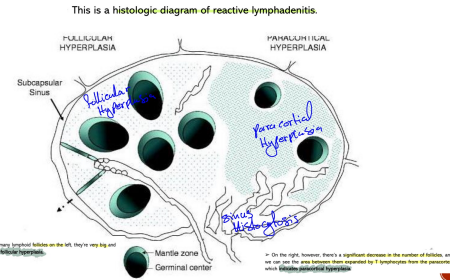
Chronic Non-specific Lymphadenitis

(chronic enlargement of LWs)

associated with 3 histologic patterns



* Diseases cause Non-specific lymphadenitis *



Most important & significant one

Uncommon Disease

Cat-scratch Disease

- Bacterial infection by *Bartonella henselae*
- transmitted from cats
- ↳ Bite scratch infected saliva
- Most commonly in children
- * causes Acute lymphadenitis in Neck & Axilla area
- * symptoms after 2 weeks of infection
- * Bacteria causes
- ↳ Regenerative & then Necrotizing granulomas in LN's
- * Mostly self limited in 2-4 w
- rarely can disseminate into visceral organs

Hemophagocytic Lymphohistiocytosis (HLH)

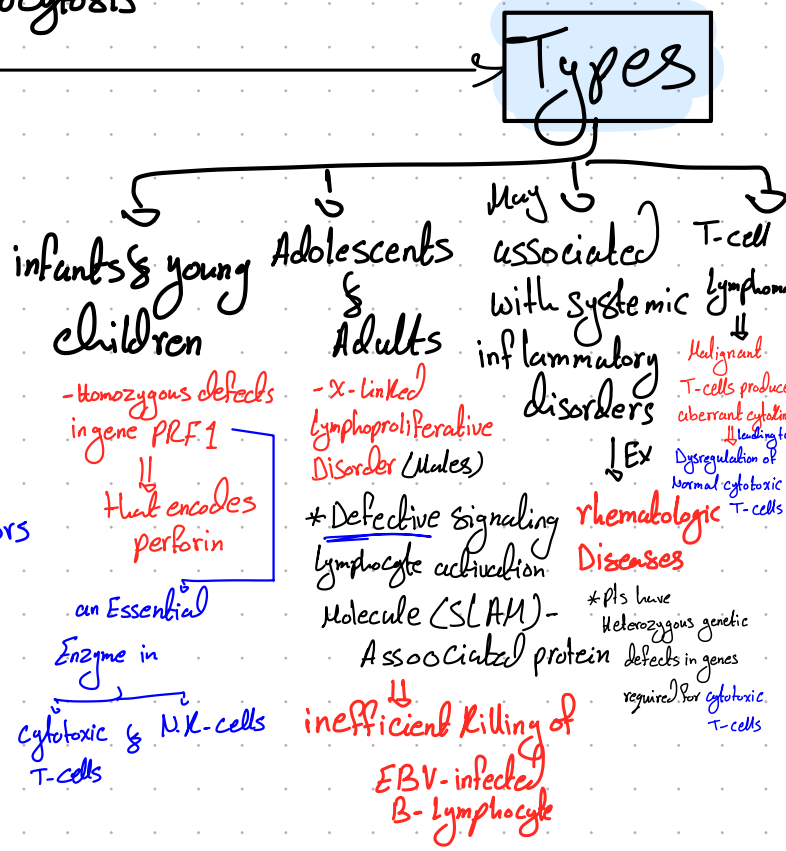
- viral infection or other inflammatory agents

Macrophages (histocytes) throughout the body to engulf

normal blood cells & their precursors in BM

* pts have defective genes related to the function of

cytotoxic T-cells & Natural Killer cells



thus they are engaged with their target (virus-infected cells) for a long period

release access interferon- γ

↳ Hunt (+) Macrophages release

↳ TNF & IL-6

systemic inflammatory response syndrome (SIRS)

systemic symptom of inflammation

SYMPTOMS

- **Fever, splenomegaly and pancytopenia**
- **High ferritin** → inflammation
- **High triglyceridemia** → TNF & IL-6 → lipase → Fat accumulation
- **High serum IL-2** → abnormal immune Activity (that degrade fat)
- **Low level of blood cytotoxic T-cells and natural killer cells**
- **BM: numerous macrophages engulfing RBCs, platelets and granulocytes**