

Lymphadenitis

Reactive lymphadenopathies

Lymphadenitis

Acute/chronic

Non-specific/specific

- **Viral**
- **Bacterial**
- **Mycotic**
- **Protozoarian**

Reactive lymphadenopathies

□ **Drainage from inflammed sites**

- **Moderate enlargement**
- **Sinus dilation**
- **Lymph accumulation**
- **Sinus histiocytosis (macrophages + PMN)**
- **Follicular hyperplasia**

Acute (suppurative) lymphadenitis

▪ **Bacterial (strepto/staphilo)**

Increased size, painful, elastic

- **Sinus dilation, oedema**
- **PMN infiltration**
- **Microabscesses**
- **Possible fibrotic substitution**

Chronic non-specific lymphadenitis

▫ **Primary or following acute events**

Increased size, painless, fibrotic

Bacterial, micotic, protozoarian

- **Sinus histiocytosis**
- **Macrophages and lymphocytes**
- **Necrotic foci**
- **Reparative fibrosis**

Chronic non-specific lymphadenitis

With microabscess formation

- **Tularemia**
 - **Mesenteric by Yersinia**
 - **Lymphogranuloma Venereum**
 - **Cat scratch disease**
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Chronic non-specific lymphadenitis

▫ Tularemia

- **Francisella Tularensis**
 - **Systemic**
 - **Pseudo-TB granuloma**
 - **Non caseating**
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Chronic non-specific lymphadenitis

Yersinia Pseudotuberculosis, Enterocolitica

- **Childhood**
- **Rural areas (wild pigeons, rats)**
- **Mesenteric lymph nodes**
- **Appendicular-like syndrome**
- **Non caseating**

Chronic non-specific lymphadenitis

Yersinia Pseudotuberculosis, Enterocolitica

- Penetration through Peyer's patches
- Indolent visceral lesions
- Consistent enlargement of mesenteric lymph nodes
- Multiple microabscesses
- Peri-necrotic granulomas
- Follicular hyperplasia
- Basophilic immunoblasts

Chronic non-specific lymphadenitis

Lymphogranuloma venereum

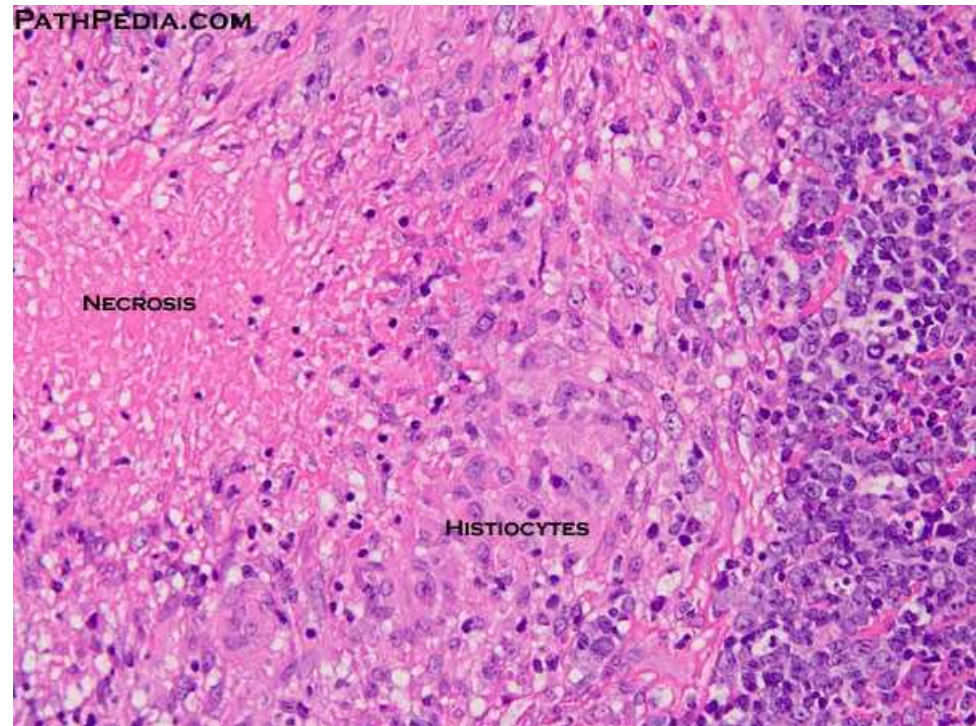
- **Chlamydia Trachomatis**
- **Sexually transmitted**
- **M: penile ulcer, inguinal nodes poro-adenitis**
- **F: cervical erosion, pelvic nodes enlargement**
- **Peri-necrotic granulomas**
- **Fistulization with panniculitis**

Chronic non-specific lymphadenitis

□ **Cat scratch disease**

- **Bartonella Henselae (Gram-)**
- **Children & adults**
- **Skin scratches & ulcers**
- **Latero-cervical, axillary, inguinal nodes**
- **Multiple microabscesses**
- **Peri-necrotic granulomas**
- **Geographic configuration**

Cat scratch disease



Chronic lymphadenitis

□ **Kawasaki's disease (Muco-cutaneous syndrome)**

- **Infancy & childhood**
 - **Fever, skin rashes, conjunctivitis, oral ulcers**
 - **Acute arteritis (coronary)**
 - **Multiple infarct-like necrotic foci**
 - **Peri-vascular inflammation**
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Chronic lymphadenitis

Kikuchi lymphadenitis

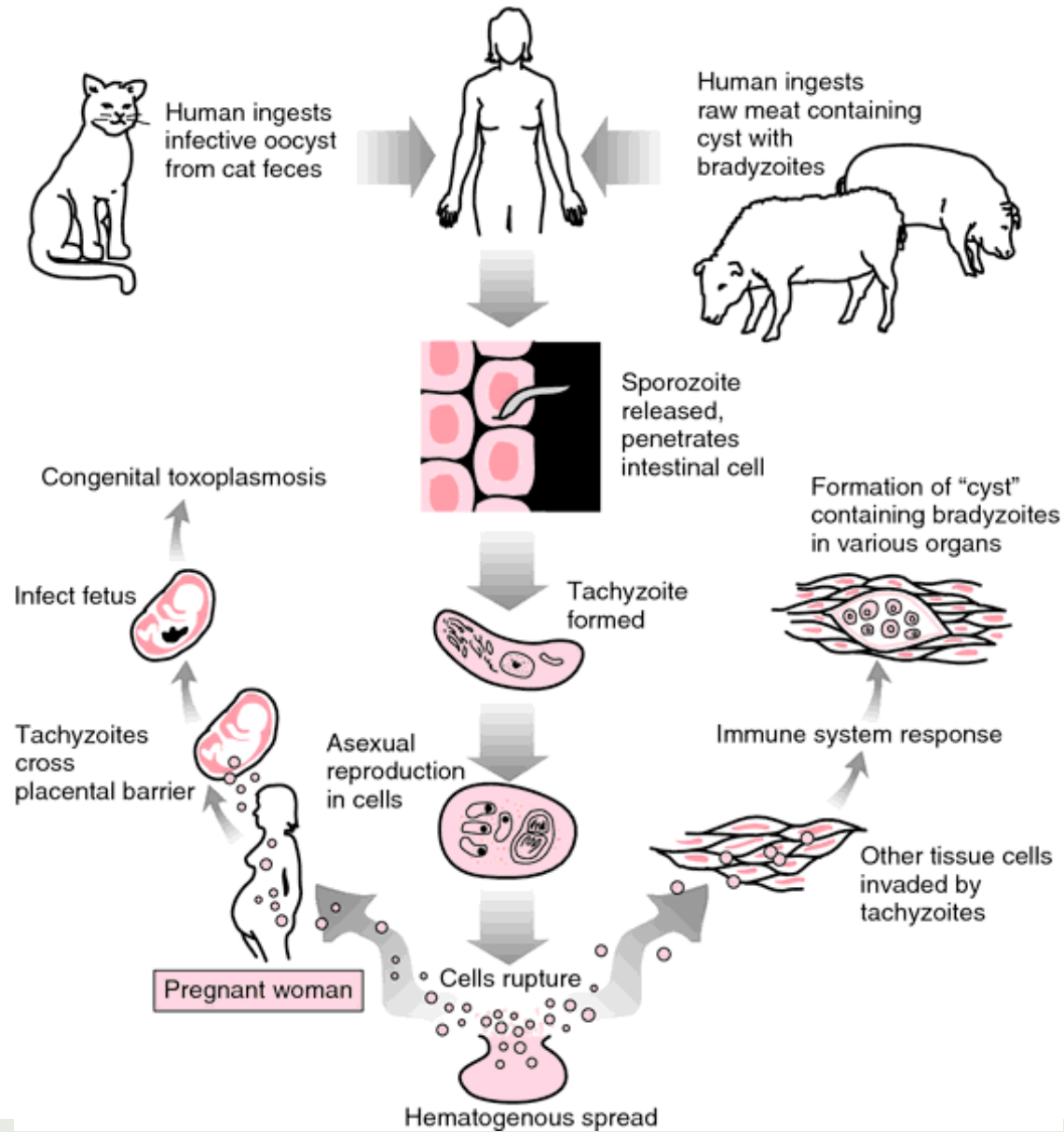
- **Fever & malaise**
- **Adolescents, females**
- **Latero-cervical nodes**
- **Necrotizing lymphadenitis**
- **Necrotic foci with nuclear debris**
- **Histiocytic hyperplasia**
- **No PMN**

Chronic lymphadenitis - protozoa

▫ **Toxoplasmosis**

- **Toxoplasma Gondii (humans, dogs & cats)**
- **Adolescents & young adults**
- **Latero-cervical nodes**
- **Specific seric Ig (TORCH)**
- **Trans-placental transmission with eye & brain permanent lesions**

Toxoplasmosis

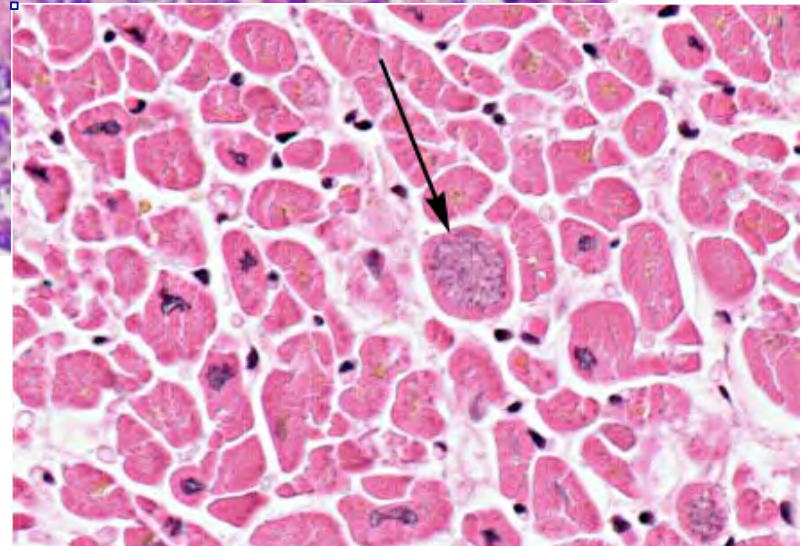
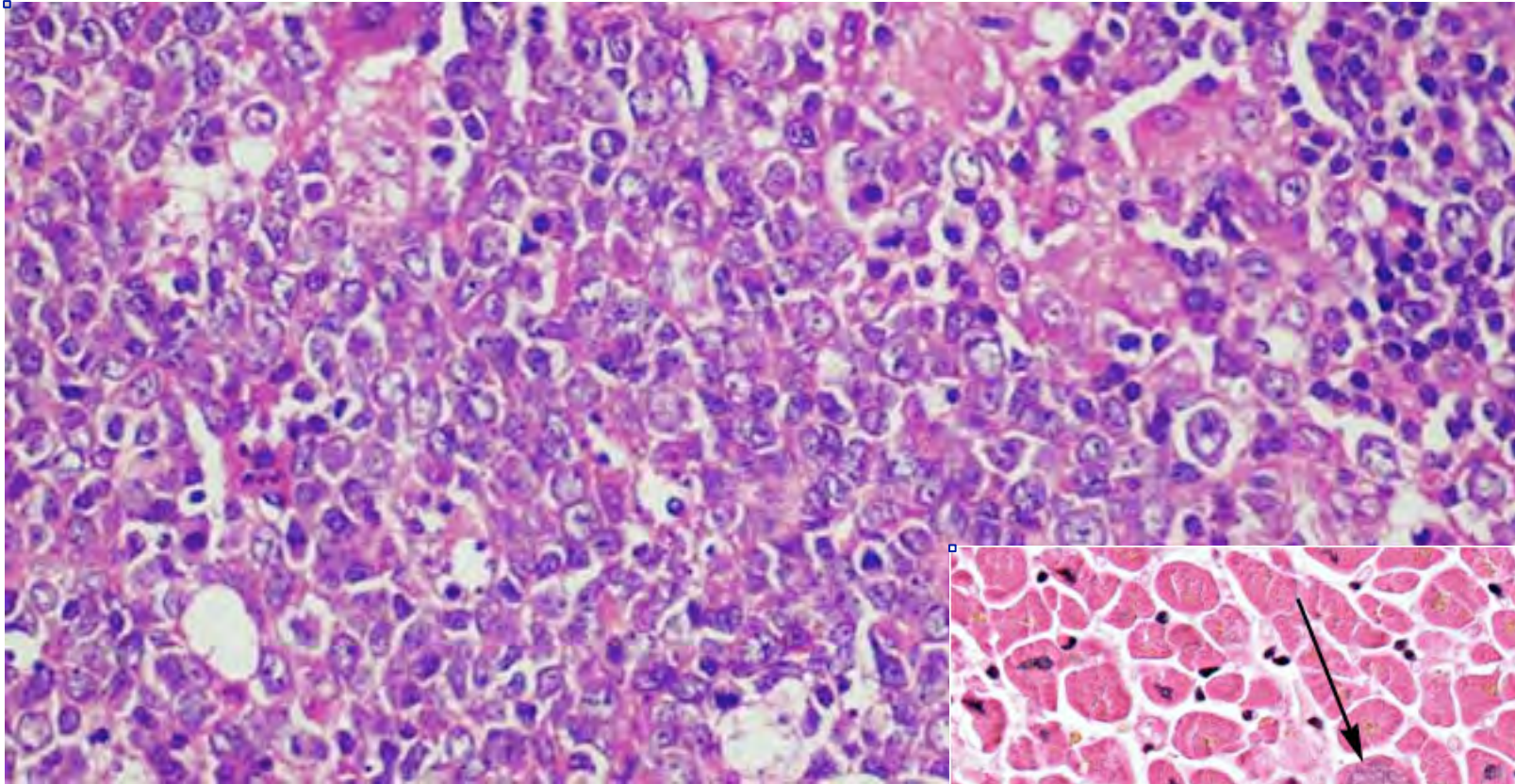


Chronic lymphadenitis - protozoa

Toxoplasmosis

- **Follicular hyperplasia**
- **“Immature” sinus histiocytosis**
- **Epithelioid micro-granulomas**
- **Clusters of monocytoïd B-cells**
- **D.D.: Mononucleosis, Hodgkin**

Chronic lymphadenitis - protozoa

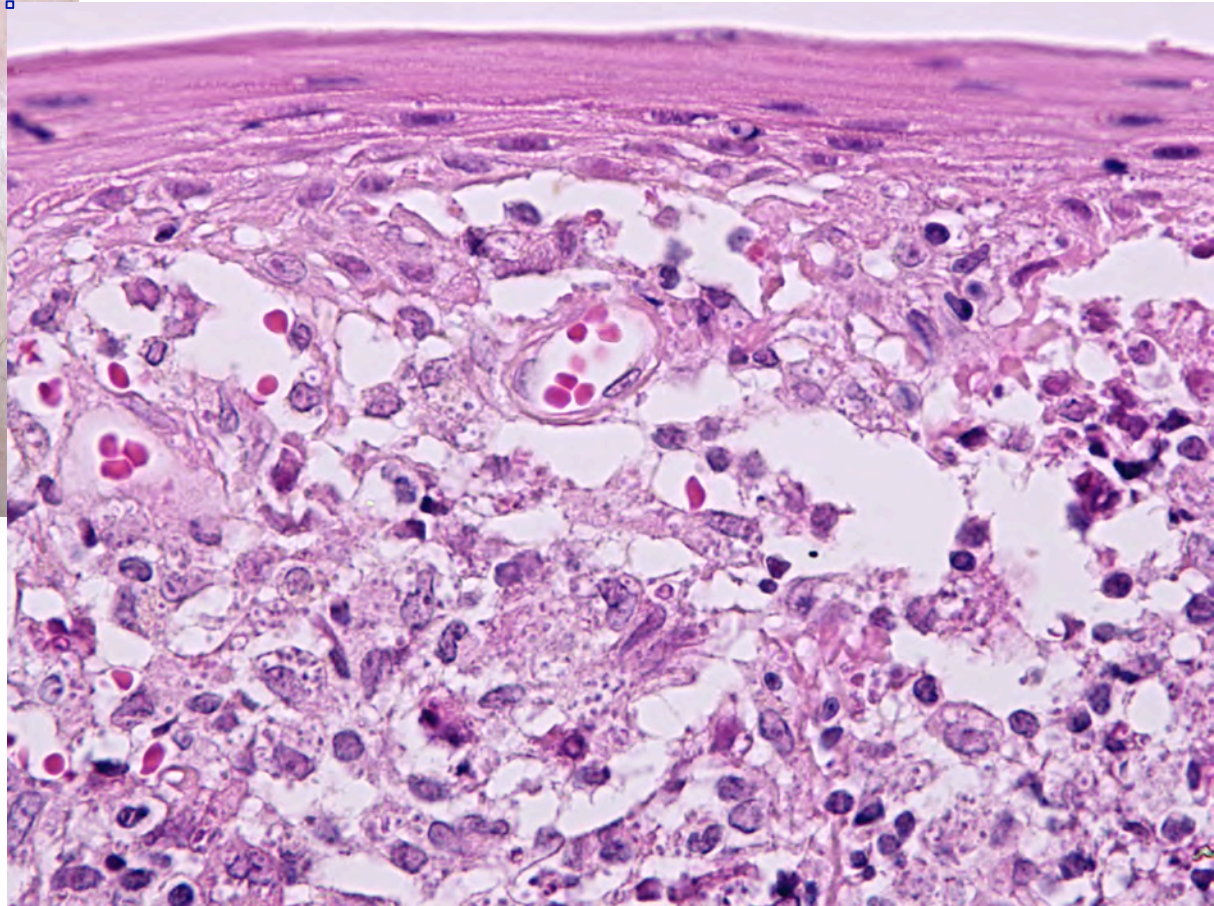
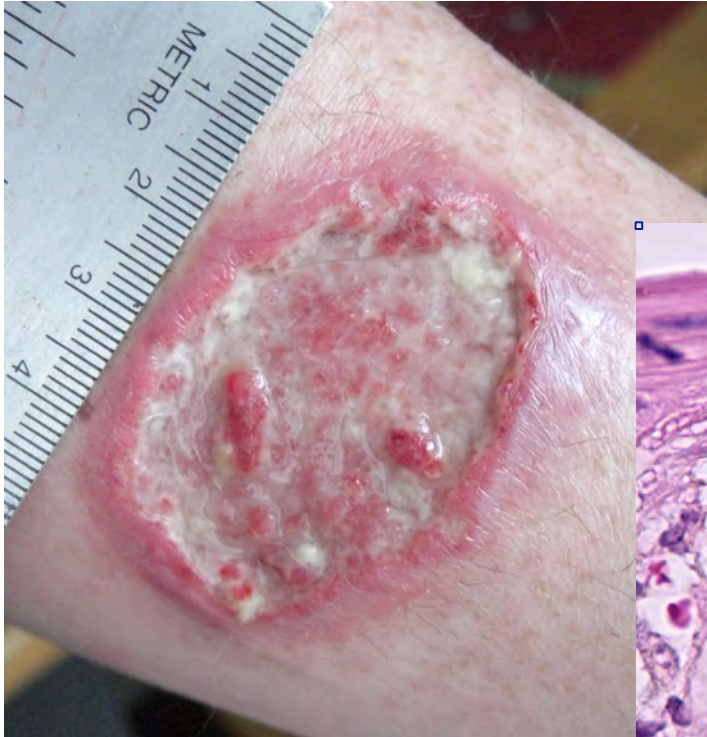


Chronic lymphadenitis - protozoa

Leishmaniasis (Kala-Azar)

- **Leishmania Donovanii**
- **Europe & Middle East**
- **Transmitted by sandflies**
- **Cutaneous, muco-cutaneous, visceral**
- **Hepato-spleno-lymphomegaly**
- **Macrophage granulomas with basophilic punctuation**
- **Plasmacell clusters**

Leishmaniasis (Kala-Azar)



Chronic lymphadenitis - viral

Infectious Mononucleosis

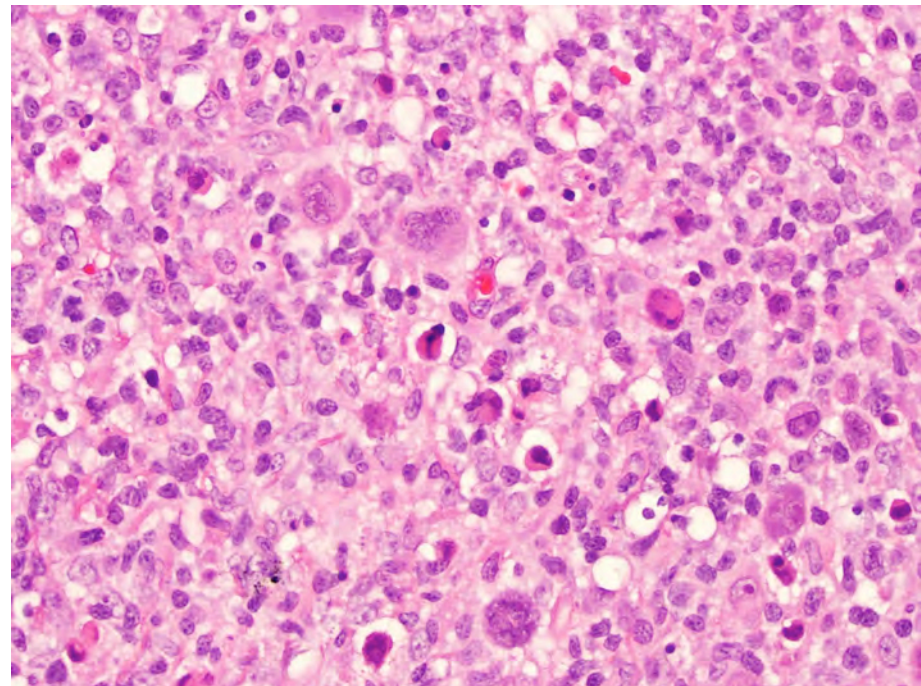
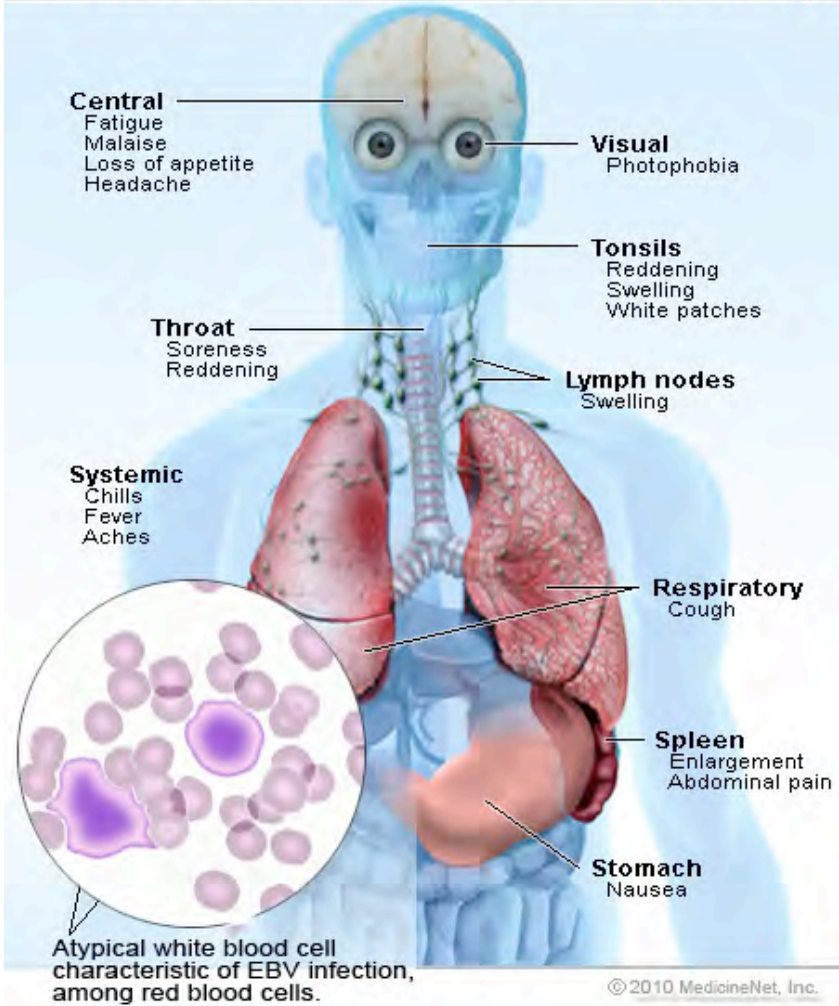
- **EBV (Herpesviridae, DNA)**
- **Inter-human contacts (kiss)**
- **Sub-clinical infection**
- **Fever, tonsillar angina**
- **Systemic lymphadenopathy**
- **Polymorphic PBC (blastoid monocytes)**
- **Seric Ig (Paul-Bunnell, Monospot)**

Chronic lymphadenitis - viral

▪ **Infectious Mononucleosis**

- **Architectural effacement**
- **Follicular hypotrophy**
- **Paracortical hyperplasia**
- **Epithelioid macrophages in clusters**
- **“Blastic” T-cell activation**
- **Reed-Sternberg-like cells**

Infectious Mononucleosis (Mono)



Chronic lymphadenitis - viral

Acquired Immune Deficiency Syndrome (AIDS)

- RNA virus (HIV), T-lymphotropic
- Helper-inducer T-cell impairment
- Progressive immune suppression
- Opportunistic infections (CMV, Atypical Mycobacteria, Histoplasmosis, Cryptococcosis, Blastomycosis, Pneumocystis Carinii)
- Non-Hodgkin lymphomas (CNS)
- Kaposi's sarcoma

Chronic lymphadenitis - HIV

- **HIV-seropositivity (no clinical signs)**
 - Pre-AIDS (latent symptoms, lymphomegaly)**
 - Acquired Immune Deficiency Syndrome (AIDS)**
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Chronic lymphadenitis - HIV

Pre-AIDS (PGL)

Persistent Generalized Lymphadenitis

- Systemic lymphadenitis
- “Explosive” follicular hyperplasia
- Wide germinal centres with thin mantle zone
- Small lymphocyte colonization of follicles
- Follicular atrophy (desertification)
- Paracortical depletion and fibrosis



Chronic lymphadenitis - HIV

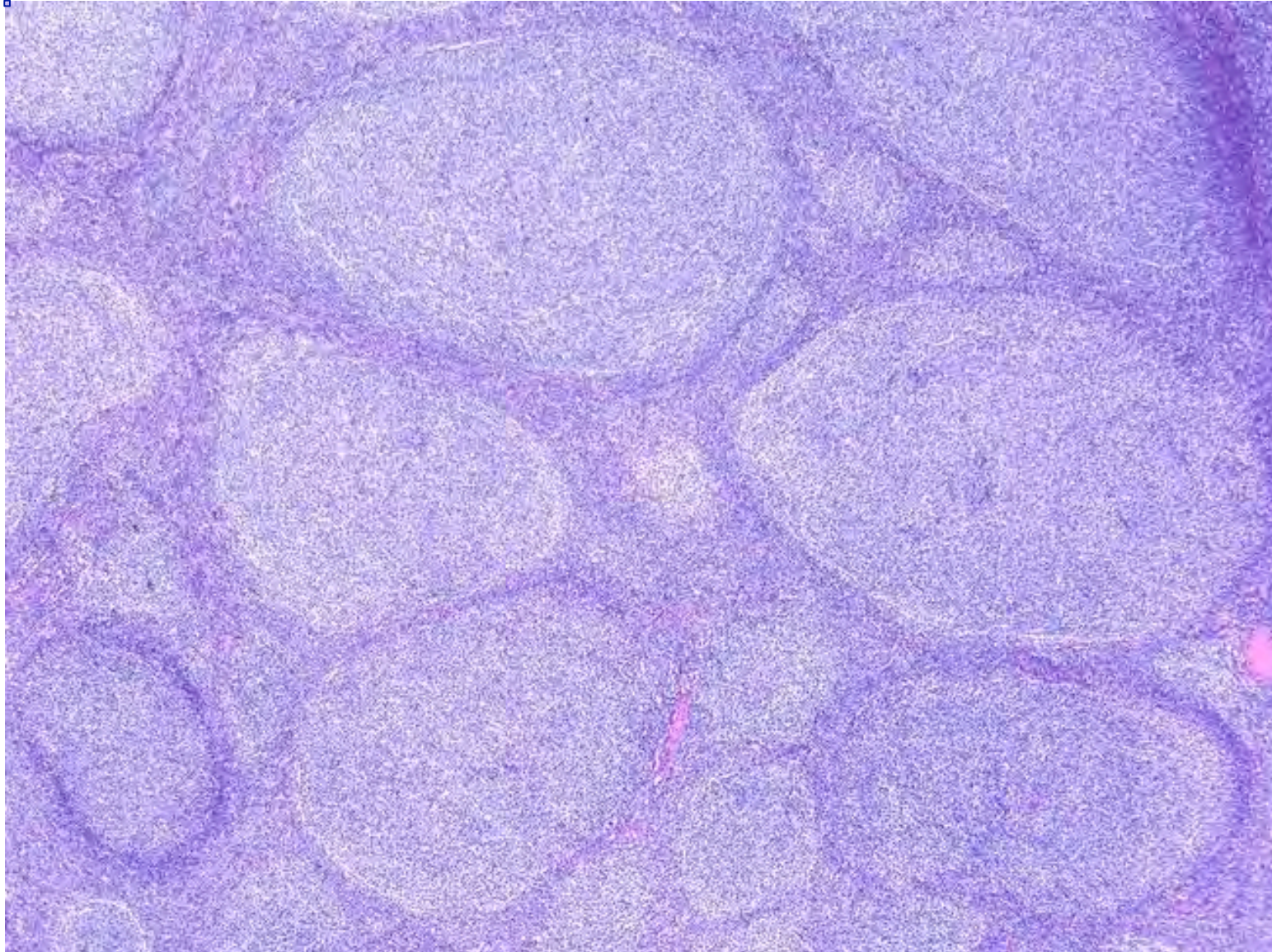
Pre-AIDS (PGL)

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Chronic lymphadenitis - HIV



MORBILLO

Ag. Eziol. RNA-virus

La linfoadenopatia può precedere il rash cutaneo

Iperplasia follicolare

Presenza di cellule giganti di Warthin-Finkeldey
nei centri germinativi

Chronic lymphadenitis - viral

Measles

- **RNA Paramyxovirus**
- **Airborne contact, infants**
- **Skin rash, fever**
- **Lymphomegaly (retro-auricular, nocal)**
- **Follicular hyperplasia**
- **Warthin-Finkeldey giant cells**

Chronic lymphadenitis - specific

Tuberculosis

- **Mycobacterium Tuberculosis (Ziehl-Neelsen+)**
- **Primary complex and post-primary**
- **Pulmonary hilum, latero-cervical, mesenteric**
- **Confluent granulomatous inflammation**
- **Caseous necrosis, epithelioid macrophages, Langerhans giant cells**
- **Fistulization, fibrosis, calcification**

Chronic lymphadenitis - specific

Syphilis

- **Treponema Pallidum**
- **Primary stage = inguinal nodes**
- **Secondary stage = systemic**
- **Follicular hyperplasia**
- **Paracortical expansion with epithelioid nodules and gommous necrosis**
- **Plasma cell cuff around blood vessels**

Chronic lymphadenitis - specific

Leprosy

- **Mycobacterium Leprae (Hansen)**
- **Skin patches, nodules, ulcers**
- **Leprosy TB-like granulomas**
- **Perineural location**
- **Vacuolated macrophages with clear globes**

Chronic lymphadenitis - specific

