



# **PATHOLOGY**

**Lecture : #**



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# Con. JOINTS

تم اضافة بعض الصور والمعلومات المهم ولم يتم يحذف اي معلومة بالاسلايدز فقط اعادة ترتيب المعلومات بشكل منظم اكثر

بسم الله الرحمن الرحيم

• سلايدات الدكتور باللون الاسود،

والشرح الخارجي باللون الاخضر.

## Infectious Arthritis

Suppurative Arthritis formation of pus in joints

#Bacteria can seed joints during episodes of bacteremia; resulting uniformly in a suppurative arthritis.

old	Main Causative agent
children under age 2 years	Haemophilus influenzae
older children & adults	S. aureus
late adolescence & young adulthood	gonococcus
Sicklers at any age	Salmonella.

Although virtually any bacteria can be causal

### ● Clinically

#sudden onset of pain, redness, & swelling of the joint with restricted range of motion.

#Generally there is commonly fever, leukocytosis & increase ESR.

bacteremia هاي العلامات العامة بكل الجسم لانه اصلا فيه

# In **90% of nongonococcal suppurative** arthritis, the infection involves only a single joint -usually the **knee**-followed in order by hip, shoulder, elbow, wrist, & sternoclavicular joints.

#Diagnosis :

Joint aspiration is typically purulent, & allows identification of the causal agent.

### Lyme Arthritis

Lyme disease مرور سريع

is caused by infection with the spirochete **Borrelia burgdorferi**, transmitted by **deer ticks of the Ixodes ricinus complex**. ; With more than 20,000 cases reported annually, it is the leading arthropod-borne disease in the US.

#Lyme arthritis may be caused by immune responses against Borrelia antigens that cross-react with proteins in the joints

The disease tends to be remitting & migratory, primarily involving large joints, especially the knees, shoulders, elbows, & ankles, in descending order of frequency.

- **In stage 1** Borrelia spirochetes multiply at the site of the tick bite & cause an expanding area of redness, often with an indurated or pale center, called **erythema chronicum migrans**.

Outer ring continue expand + red center

- **In stage 2**, the **early disseminated stage**, spirochetes spread hematogenously & cause secondary annular skin lesions, lymphadenopathy, migratory joint & muscle pain, **cardiac arrhythmias**, & **meningitis**. If the disease is not treated, Abs develop that are useful for serodiagnosis of the infection.

• In stage 3, the **late disseminated stage**, which occurs 2 or 3 years after the initial bite, **Lyme arthritis** is a dominant feature, developing in 60% to 80% of untreated patients, causing **chronic arthritis**, sometimes with severe damage to large joints, & **encephalitis** that varies from mild to debilitating.

\*\*\*\*H, there is a chronic papillary synovitis in severe cases, the morphology closely resembles rheumatoid arthritis (RA).

► Diagnosis of Lyme arthritis depends on **the clinical story &/or appropriate with or without serologic studies.**

## JOINT TUMORS & TUMOR-LIKE LESIONS

Reactive tumor-like lesions such as ganglions & synovial cysts are much more common than neoplasms

الأورام الحميدة أكثر من الأورام الخبيثة

;these typically result from trauma or degenerative processes.

∩ In comparison, Joints benign T are much more frequent than their malignant counterparts.

{The rare malignant synovial sarcoma is discussed latter with the soft tissue T.}

## Ganglion & Synovial Cysts

☀ Are reactive, tumor-like lesions of joints

□ Are much more common than joint tumors.

□ **Ganglion (G) is a small (<1.5 cm) cyst located near a joint**

capsule or tendon sheath; the **wrist is a common site.**

• Are firm to **fluctuant, pea-sized** nodules, grossly translucent

□ H, G lack a true cell lining, **because they arise by cystic degeneration of connective tissue.**

- G can be multilocular through coalescence of adjacent areas of myxoid change, & **cyst fluid is similar to synovial fluid, although there is no communication with the joint space.**

اذن هيك كيس في تجويف واحد او اكثر ولكنه لا يرتبط مطلقا مع الجوينت سبب

- G are usually completely asymptomatic.

Historically, treated

by whacking them with a large tome which is usually sufficient to rupture the cyst, & re-accumulation is uncommon.

- Herniation of synovium through a joint capsule or massive enlargement of a bursa can produce a **synovial cyst, e.g., Baker cyst that occurs in the popliteal fossa.**

## Pigmented Villonodular Tenosynovitis (PVNS) & Giant-Cell Tumor (GCT) of Tendon Sheath

- Villonodular synovitis is a benign tumor of synovium.

Although previously considered reactive proliferations (hence the designation synovitis), cytogenetic studies show consistent chromosomal changes that prove they are neoplastic clonal proliferations & not an inflammation.

كانوا يفكروا التهاب وطلع مو التهاب

- Classic examples include pigmented villonodular synovitis (PVNS) & giant-cell tumor (GCT) of tendon sheath, both arise in 20- 40year age group, with no sex predilection.

- Grossly, both are red-brown to orange-yellow lesions.

□ In PVNS, the joint synovium shows diffuse involvement with finger-like projections, folds & nodules (F21-21A &13-23);

□ In contrast, the GCT of tendon sheath usually occur as a single & well circumscribed nodule,