

<u>BUG</u>	<u>METABOLISM/SPECIAL STAIN-CULTURES-DX TECHNIQUES</u>	<u>VIRULENCE FACTORS/CLINICAL PRESENTATION</u>	<u>RESERVOIR/ TRANSMISSION</u>	<u>TREATMENT/MEDICAL MANAGEMENT</u>	<u>KEY MISC FACTS</u>
<u>CHLAMYDIA</u> Trachomatis	Obligate intracellular parasite that cannot even make its own ATP (unlike rickettsia)-culture in eggs  Cytoplasmic inclusions on Giemsa  Fluorescent Ab stained smear	Mucosal cell invasion→cervicitis/ urethritis/conjunctiva  Cell-mediated immunity→ inflammation	Humans/ Sexual/ “E”lementary bodies in inf“E”ctious/ Reticulocyte bodies occur in cells where Chlamydia undergoes “R”eproduction	Erythromycin, tetracycline-pcn ineffective because cell wall lacks muramic acid.	Always check for NGU (Chlamydia) in those w/ gonococcal urethritis  Ping-pong  Fitzhugh curtis
• ABC	Biovars based on differences in outer membrane proteins	AAAfrica, BBBlindness, CCChronic			
• DK	serovars	Everything else: (urethritis-PID,)			
• L1,2,3	serovars	LLLymphogran..			
Chlamydia psittaci		psittacosis/flu/parrot fever-think bird handlers	Avian		
Chlamydia pneumonia		Atypical pneumonia (dry hacking cough)  Thought to increase inflammation chronically and cause atherosclerosis and possible heart disease	humans		
<u>MYCOBACTERIA</u>	Non-motile Non-spore forming  Obligate aerobes→preferential attack of upper lobes due to better aeration  Cell wall has high lipid content (mycolic acid)→ acid fast staining • <u>Ziehl-neelson</u> • Kinyoun				VERY DIFFICULT TO STAIN
• Photochromogens: color in light					
• Scotochromogens: yellow in dark or light					
• Non-photochromogens: no color					
• Rapid					

<p>grows: self explanatory</p>	<ul style="list-style-type: none"> <li>Flouochrome</li> </ul> <p>Culture:</p> <ul style="list-style-type: none"> <li><u>lowenstein-jenson-egg supplanted</u></li> </ul>				
<p>T.B. complex:</p> <ul style="list-style-type: none"> <li><u>M. tuberculosis</u></li> <li>M. africanum</li> <li>M. bovis</li> </ul>		<p>Cellular immunity leads to inflammation-macrophage (bug multiplies w/I m-phage) activation by IF gamma→casseus granulomas (tuberculoma)</p> <p>Intracellular survival secondary to inhibition of lysosome to fuse w/ phagocytic vacule</p> <p>Primary→pulm/periphery or midzone. SEEDING Asymptomatic usually. +- radiographic detectability. +PPD 2-4wks post infection. Ghon complex after time.</p> <p>Secondary (10%) (reactivation)→associated w/ immune compromise or concomitant dz usually High O2 ares. Lung APX. Sings and Symps like Cancer. Think of Tb as infectious cancer and can present as anything or anywhere:</p> <ul style="list-style-type: none"> <li>Lung</li> <li>Brain</li> <li>GI</li> </ul>	<p>Humans and primates</p> <p>Inhalation of droplets common</p> <p>Skin/GI→ uncommon</p> <p>Need large inoculum or prolonged exposure (you don't have to worry so much on the wards)</p>	<p><b>INH</b> <b>Rifampin</b> Ethambutol pyrazamine</p> <p>“RIPE”</p>	
<p>M. Leprae</p>	<p>Foot pad of armadillo</p> <p>No artificial or tissue culture successful</p>	<ul style="list-style-type: none"> <li>Tuberculoid-normal cellmediated immunity-healing</li> <li>Lepromatous-abnormal cell-mediated</li> </ul>	<p>Humans-very very low infectivity (motorcycle diaries-rugby w/ leprosy patients)</p>		

		<ul style="list-style-type: none"> <li>immunity</li> <li>• VERY VERY BAD</li> </ul>	Spread by contaminations of skin lesions w/ nasal secretions		
Atypicals MOTT NTM	)		Environmental sources		
<ul style="list-style-type: none"> <li>MAI/MAC (mycobacteria avian complex)</li> </ul>			Need immunocompromise usually		
<b><u>NOCARDIA</u></b>	Gram-pos Aerobic Rod-shaped Branch and beads on stain  Weakly acid fast	Inhalation of dust → pulm/cutaneous  Occurs in pts w/ concomitant Dz	soil	Bactrim (sulfatrim)	
<b><u>SPIROCHETES</u></b>	Spiral shaped Axial filaments-motile				
Borriela	Big Wright's or Giemsa Microaerophilic +in vitro culture		ARTHROPODS		
<ul style="list-style-type: none"> <li>Borriela recurrentes/</li> </ul>		Antigenic variation Epidemic relapsing fever- 3-7 ds fever followed by days to weeks of break followed by relapse	Body Louse-vector Humans reservoir	Tetracycline or pcn	
<ul style="list-style-type: none"> <li>Borriela hermsii/parkeri/turicatae</li> </ul>		Endemic relapsing fever--	Soft shelled tick humans and rodents are reservoirs	Tetracycline or pcn	
<ul style="list-style-type: none"> <li>Burgdorferi</li> </ul>	BSK culture → low yield  Immunofluorescence Problems with sense and spec.	Lyme-SYSTEMIC DZ Stage 1: erythema migrans/ HA/ prostration  Stage 2: arthritis asymmetric/neuro abnormalities/ cardia  Stage 3: psych dz/ worse arthritis/ brain destruction	Hard shell tick: ixodes scapularis	PCN/ tetra-doxy/  Late stage ceftriaxone  LYMEX? cost effectiveness	North east connecticut
Treponema	+silver/darkfield/flourescent Anaerobic		Acquired through skin or wound	<b><u>PCN</u></b>	ALL have Primary

