

وهيك بنكون خلصنا مادة الميد للمايكرو مش ضايل علينا غير اناتومي وفسيو وباثو وبس والله



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Miscellaneous respiratory tract infections

Atypical Pneumonia

- ✓ General information :
 - called "Walking Pneumonia"
 - causes milder form of pneumonia characterized by slow development of symptoms
 - caused by Gram-ve bacteria are attached to respiratory mucosa but they are not a common part of the respiratory flora [an exception some mycoplasma species might be part of the respiratory flora]

- ✓ Caused by :

1. Mycoplasma

Description	Diagnosis	Treatment
-The smallest, lack a cell wall -transmission via droplets -have 4 species: Mycoplasma pneumoniae : their target are the lungs Mycoplasma hominis : their target are the genitourinary tract Mycoplasma parvum : their target are the genitourinary tract Ureaplasma urealyticum : their target are the genitourinary tract	- Culture is not used for diagnosis - PCR and cold agglutination test [not highly specific nor sensitive.] - MIF : comparing diluted antibody titers (of IgG or IgM) from a sick patient and a healthy individual	- resolve spontaneously - Azithromycin , Levofloxacin , Moxifloxacin - No vaccine <hr/> - Common infection in Fall-Winter - Mycoplasma is an extracellular infection

2. Chlamydia

- ✓ Obligate intracellular infection , attached human mucosal membrane
- ✓ Chlamydia trachomatis (Serotypes C, K): Common cause of sexually transmitted diseases (STDs) / characterized by conjunctival scarring, damage to eyelids, cornea, and blindness
- ✓ has biphasic morphology:
 - Elementary bodies: extracellular and infectious form.
 - Reticulate body (RB): intracellular and reproductive form.
- ✓ species:

Chlamydia pneumoniae	Chlamydophila Psittaci
- Mode of transmission is by droplets - called Chlamydophila , infect children - Diagnosis McCoy Cell Culture , PCR , MIF [is the gold standard] -Treatment Tetracyclines, Macrolides, levofloxacin, moxifloxacin, penicillins don't work - No vaccine	-C. psittaci causes zoonotic diseases. It causes a rare human disease called psittacosis (ornithosis). -Transmission: Human infection followed contact with birds , NOT via droplets Signs Symptoms: starts mild and flu-like, and ends with severe disease, including fatal pneumonia, dry cough -Diagnosis and treatment are similar to other Chlamydia -Localized inflammation

3. Legionella

Description	Diagnosis	Treatment
<p>-gram negative bacteria , Facultative anaerobes</p> <p>- found in natural aquatic bodies and wet soil</p> <p>- affect children and elderly</p> <p>- person to person transmission is very rare , not contagious.</p> <p>-causes two diseases:</p> <ol style="list-style-type: none"> 1. Pontiac fever is very mild and has flu-like symptoms. 2. Legionnaires presents with atypical pneumonia as well as GI symptoms [hyponatremia] 	<p>-Special culture media (charcoal yeast extract)</p> <p>-Urine sample is the most common used test for diagnosis.</p> <hr/> <p>- Present as high fever, nonproductive/ productive dry cough, shortness of breath, chest pain, muscle aches, joint pain, diarrhea, renal failure, with high mortality rate.</p>	<p>Macrolides (azithromycin), fluoroquinolones (levofloxacin, moxifloxacin).</p> <p>-No Vaccine</p>

OPPORTUNISTIC MYCOSES

Cryptococcus neoformans:	<p>-encapsulated yeast (capsule is antiphagocytic)</p> <p>-inhabits soil around pigeon roosts. Reservoir is birds, whose droppings infect soil, and are then inhaled.</p> <p>-characterized by being neurotropic</p> <p>-Dissemination to meninges and brain can cause severe neurological disturbance and death + lead to lung nodules</p> <p>-Diagnosis :</p> <p>Microscopic: India Ink for capsule stain , Culture: Bird seed agar is selective for C. neoformans (gold standard) , PCR</p>
Aspergillosis: Diseases of the Genus Aspergillus	<p>-airborne soil fungus [Mode of infection: inhalation of the reproduction elements of these fungi.]</p> <p>-Infection occurs in : Lungs, sinuses, ear canals, eyelids, and conjunctiva / spores germinate in lungs and form fungal balls (called aspergilloma)</p> <p>-Treatment: surgery[in case of aspergilloma], Amphotericin B, and nystatin</p>
Zygomycosis (Mucormycosis):	<p>-abundant saprophytic fungi found in soil, water, organic debris, and food.</p> <p>-Genera most often involved are Rhizopus, Absidia, and Mucor.</p> <p>-Affect people with diabetes (mainly)</p> <p>-Treatment: Control Diabetes, surgery, and amphotericin B.</p> <p>-Prognosis is very poor because they are immunocompromised</p>
PNEUMOCYSTIS	<p>-Pneumocystis jirovecii is the cause of a lethal pneumonia in immunocompromised persons</p> <p>-Diagnosis→Sputum, BAL [Bronchoalveolar Lavage]</p> <p>-Treatment: (Trimethoprim/Sulfamethoxazole)</p>
Endemic mycosis:	<p>-General information</p> <ul style="list-style-type: none"> ✓ caused by a thermally dimorphic fungus ✓ can be seen in healthy people as well as immunocompromised people ✓ Most infections are asymptomatic or mild and resolve without treatment.

Dimorphic Fungus:

Histoplasmosis	<ul style="list-style-type: none">-Infection by inhalation of microconidia or macroconidia (the reproduction elements of fungi).- intracellular, living inside immune cells of reticuloendothelial system.- All infected patients become positive by histoplasmin skin test (test may stimulate humoral antibodies to histoplasma capsulatum antigens in histoplasmin hypersensitive individuals).
Coccidioidomycosis & Blastomycosis:	<ul style="list-style-type: none">- soil inhabiting Dimorphic Fungus.- Endemic in south-western U.S.A., northern Mexico and various parts of South America (found in desert areas).- cause infection primarily in the lung + transmitted by inhalation of microconidia- Blastomycosis results in severe morbidity- Diagnosis: Direct microscopy , Cultures on Sabouraud dextrose agar , Serological tests are of limited value, not significant , Detection of Histoplasma antigen in blood & urine is significant.
Paracoccidioidomycosis	<ul style="list-style-type: none">- Typical presentation is similar to Coccidioides immitis.- confined to endemic regions of Central and South America.

اللهم امنن عليّ بالحفظ، وأفتح لي من أبواب
الحكمة، واغمرني بالعفو والرحمة، فسبحانك ربي
لا علم لنا إلا ما علمتنا