



Atypical Pneumonia

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Atypical pneumonia refers to Legionella - Mycoplasma - Chlamydia and Coxiella pneumoniae. Typical pneumonia refers to bacterial and atypical to non-bacterial pneumoniae.

LEGIONNAIRE'S DISEASE

It may be suspected under

- Glucocorticoid intake
- Cytotoxic chemotherapy
- Cigarette smoking
- Diabetes mellitus
- Male gender or age above 50
- Retroviral disease
- Immunosuppressive therapy for solid organ transplantation
- Chronic heart or lung disease
- Renal dialysis therapy
- Lung cancer - hairy cell leukaemia

Legionella exposure can occur in

- Recent plumbing work at home or at work place
- Poorly maintained bath tub

When Legionella is suspected, buffered charcoal yeast extract agar medium with iron l-cysteine and alpha keto glutarate is used to grow Legionella.

Polymyxin B, Cefamandole and Vancomycin are used in Legionella culture medium to prevent growth of competing microflora.

Hypophosphataemia points to Legionella.

MYCOPLASMA

Most are commensals that live harmoniously with the host. Distressing headache, malaise, cough, chest soreness and chest infiltration on X-ray are suggestive symptoms. Auscultation of the lungs is near-normal despite extensive radiological shadows. Erythema multiforme, maculopapular rash, erythema nodosum and urticaria occur. Rash with pneumonitis occur in infections by Varicella zoster, Herpes simplex, Epstein-Barr virus, enterovirus, adenovirus and measles. Other differential diagnoses include chlamydia pneumonia, Legionnaire, viral pneumonia, Q fever, bacterial pneumonia, psittacosis and tularaemia. Complications are respiratory failure needing mechanical ventilation and haemolytic anaemia.

CHLAMYDIA

Produce chronic follicular conjunctivitis with visible lymphoid follicles in submucosa of conjunctiva. Urethritis, epididymitis, Reiter's syndrome, mucopurulent cervicitis, endometritis, salpingitis, proctitis, lymphogranuloma venereum and pelvic inflammatory disease are the genital manifestations of chlamydial infection. Respiratory lesions are sinusitis, pharyngitis, bronchitis and pneumonia.

PSITTACOSIS

It is systemic infection of reticulo-endothelial system, and of interstitium and alveoli of the lung produced by *Chlamydia psittaci*. There is non-productive cough, bilateral crackles, single and multiple bronchopneumonic patches on X-ray.

Q-FEVER

It is disseminated by aerosol and blood transfusion. Other rickettsiae are transmitted by vector. There is no rash despite endothelial vasculitis. History of contact with sheep, cattle, goats, cats, rabbits and dogs aid the diagnosis. Clinical lesions include hepatitis, subacute or chronic endocarditis, pneumonitis and bronchiolitis. X-ray chest shows multiple rounded opacities. Treatment of Q fever needs prolonged use of antibiotics.

ATYPICAL PNEUMONIA - SHOULD WE USE THE TERM?

Pneumonia is an inflammation and consolidation of lung tissue. *Diplococcus pneumoniae* (now streptococcal pneumonia) was discovered in 1884, *Klebsiella* in 1882, *Haemophilus Influenza* in 1920. *Streptococcus pneumoniae* produce lobar consolidation stopping at fissure lines. Other organisms produce patchy consolidation on X-ray.

Typical pneumonia evolves in a recognisable clinical manner. Sudden onset of fever, shaking chills, pleuritic chest pain, rusty coloured sputum with X-ray picture of segmental or lobar consolidation constitute the picture.

Atypical pneumonia does not present with clinically recognisable chest infection, has no shaking chills, no defervescence by lysis or crisis. Sputum shows organisms other than Gram-positive diplococci. By 1934 and 1938, the term atypical pneumonia was extensively used. United States Commission on Pneumonia gave status to the term Primary Atypical Pneumonia. Then came the recognition of Mycoplasma, Chlamydia, Legionella, Coxiella burnetii (Q fever/rickettsiosis).

Presently descriptive terms like community-acquired or hospital-acquired, typical or atypical, lobar or bronchopneumonia, single or multiple pathogen pneumonia are useful but these terms need not be overstressed.

TREATMENT

Newer macrolides, quinolones, doxycycline, tetracycline, minocycline, rifampicin are used to treat *Legionella*. Erythromycin, tetracycline, azithromycin and clarithromycin are used to treat *Mycoplasma*. Tetracycline and erythromycin treat *Chlamydia* but the response is slow. Tetracycline, doxycycline and quinolones eliminate *Coxiella burnetii*. Two antibiotics are to be used in treating *Coxiella*.

Drugs that interact with erythromycin are astimazole, carbamazepine, cisa-pride, cyclosporine, phenytoin, terfenadine, theophyllin and warfarin.

Drugs that interact with doxycycline are antacids, bismuth, carbamazepine, phenobarbital, phenytoin and warfarin.

Drugs that interact with levofloxacin are antacids, iron salt, sucralfate, theophylline and zinc.

REFERENCES

1. GA Sarosi. "Atypical pneumonia" - Why this term may be better left unsaid. *Postgraduate Medicine* 1999;105:131-2, 135-8.
2. Ramirez JA. *Infectious diseases* 2001;3:173-8.