Atypical pneumonias in adults

The atypical pneumonia syndrome is a clinical entity caused by a diverse spectrum of microorganisms. It should be differentiated from pneumococcal pneumonia, as empirical therapy differs significantly.

Introduction

The atypical pneumonia syndrome is a distinct form of community-acquired pneumonia (CAP) characterized by the subacute onset of symptoms and a prominence of nonspecific systemic manifestations. Extrapulmonary symptoms initially predominate (fever, headache, arthralgia, myalgia and gastrointestinal symptoms), with relative limited findings on respiratory examination (commonly only crackles). The most prominent early respiratory symptom is cough, with initially scant and mucoid sputum. This may become purulent as the disease progresses. Dyspnoea and pleuritic chest pains are rare. A low-grade leucocytosis is usually present and biochemical and haematological investigations may be abnormal (see below). The CXR findings can range from unremarkable to interstitial reticulo-nodular patterns to even more typical lobar and bronchopneumonic infiltrates.

There is uncertainty about the true incidence of atypical pneumonia in South Africa, but differentiating this clinical entity from the "typical" (mostly pneumococcal) CAP has important therapeutic implications, as these organisms as a rule are not sensitive to beta lactam antibiotics.

Although the aetiologies of atypical pneumonia are numerous, certain agents still make out the largest percentage in southern Africa.

Mycoplasma pneumoniae is a common cause of mild lobular pneumonia in a young adult, but frequently causes other lower and upper respiratory infections. Only rarely does haemolytic anaemia, erythema multiforme, bullous myringitis, encephalitis, transverse myelitis, myocarditis and other sequelae complicate this picture. A skin rash (mostly maculo-papular) is present in 15%.

Chlamydia pneumoniae (strain TWAR) causes pneumonia resembling M. pneumoniae. Evidence suggests the prevalence of Legionella pneumophila to be low in South Africa. The spectrum of pathology caused by the pathogen ranges from a mild benign influenza-like illness to a full-blown atypical pneumonia with prominent extrapulmonary afflictions, including a deterioration in mental state, severe abdominal complaints, renal and hepatic dysfunction and severe hyponatraemia.

Several zoonoses are associated with atypical pneumonia. These include Chlamydia psittaci, Coxiella burnetti and Francisella tularensis.

Several viruses are implicated. Pneumocystis carinii if appropriate. Gram stains and bacilli be stained for acid-fast where involved, to prevent being misled by insignificant titres or different techniques used in these laboratories. Sputum should be stained for acid-fast bacilli where pulmonary TB is suspected, and for P. carinii if appropriate. Gram stains and culture on respiratory secretions are performed in all severe infections.

Certain laboratory findings may point in a certain direction (e.g. cold haemagglutinins in the case of mycoplasma, hyponatraemia with Leigonella and a raised LDH with Pneumocystis), but none of these are diagnostic per se.

General therapeutic and supportive measures are as for pneumococcal pneumonia.

Antibiotic therapy is initially empirically aimed at the commonest aetiological agents and should include a macrolide antibiotic as first-line therapy. Traditionally Erythromycin was used extensively, but the newer generation of macrolides (Clarithro-, Roxithro- and Azithromycin) has proven to be clinically effective with a superior pharmacokinetic and safety profile. Alternatives include the tetracyclines and the newer fluoroquinolones (moxifloxacin, etc.).

Current guidelines, however, do not recommend these antibiotics as monotherapy in cases of suspected pneumococcal pneumonia (exception: moxifloxacin). It may thus be appropriate to use combination therapy (i.e. a macrolide and a beta-lactam antibiotic or alternative) in cases where accurate differentiation is impossible.

This empirical approach covers more than 90% of cases, but certain agents require different therapy. M. tuberculosis being but one example.

References


Note: Contact INFOMED at the Tygerberg Campus Library at to request one of the above references © Stellenmed Updates.Faculty of Health Sciences, Stellenbosch University. All Articles are Peer Reviewed.

Koegelenberg C
Department of Pulmonology. University of Stellenbosch
E-mail: drgemini@tiscali.co.uk

(SA Fam Pract 2004;46(5): 48)