

Indian pneumonia guidelines

Pneumonia has been referred to as captain of men of death in the past. Although the situation is not so grim today, the pneumonia has potential to cause significant problems in terms of morbidity and mortality. The misery has been reduced over the years perhaps because of the nature of disease allowing focused research for etiological agents that are amenable to treatment. Short duration of the illness and effectiveness of treatment are major positive aspects of management of community acquired pneumonia (CAP).

In India there is a paucity of indigenous guidelines in general and specifically for pneumonia. Joint ICS-NCCP guidelines for treatment of community acquired and nosocomial pneumonia is a great effort towards local evidence based guideline generation. The guideline has been included as a supplement to the July 2012 issue of Lung India.^[1] The problems specific to Indian subcontinent have been dealt with nicely e.g. necessity of radiograph, sputum collection, quality of sputum and culture, delay in presentation of the patients to hospital and lack of compliance to treatment. Lack of workup for viral and atypical agents, urinary diagnostic tests, and problem of MDR HIVTB in India have been discussed in details. Use of scoring system for admission as in-patient or need of intensive care unit are also underutilized in most of the our local settings.

In addition, various indirect factors may affect patient care in the resource poor settings e.g. availability of healthcare staff, availability of minimum diagnostic facilities, availability of good quality drugs and cost effectiveness of the treatment. Vaccination is another crucial area in specific circumstances. According to a recent study by Bhaskar *et al*, despite the availability of vaccines during last swine flu episode in their state, not many patients were vaccinated.^[2] This clearly reflects discordance between availability of health care and treatment seeking behavior.

It is also extremely important that how the evidence is collected. Recommendations are usually based on some grading systems after assessment of points in favor of or against any modality of management or health related

outcome. This system should be objective and unbiased as far as possible. For the present guidelines points of recommendations were ranked after discussion among experts at multiple levels. The Indian studies were also given special importance in developing the guidelines. Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach has been utilized recently in resource poor settings for evidence synthesis for generating recommendations.^[3]

The facility of chest radiograph is not available in resource limited areas of the country. According to the present guidelines if chest radiograph is not available, classical signs of pneumonia are sufficient to make diagnosis with confidence. Symptoms like short term cough, sputum production and chest pain are noted by most of the clinicians in the patients of lower respiratory tract infections. If no other diagnosis is likely, at least one systemic feature e.g. fever and new focal findings e.g. presence of bronchial breath sounds or crepitations on chest auscultation are another additional points helpful in making the diagnosis of pneumonia. If radiographs are available initial film may provide differential diagnostic clues. As expected, high resolution contrast CT (HRCT) is not recommended as a routine diagnostic modality for CAP.

Etiological evaluation of pneumonia is important as it decides subsequent management strategies. Unfortunately Indian studies on pneumonia are deficient in this aspect. In addition, workup for atypical pneumonia like Mycoplasma, Legionella and viral pneumonia other than swine flu is usually missing. Sputum collection is the simplest test enquiring about specific etiology of pneumonia but it is often overlooked in our primary care settings. Also, the quality of sputum is to be taken care of while collecting a sample. Most of the time whatever collected is sent for examination.

Sputum and blood cultures should be routinely performed in a hospitalized patient. Yield of organisms after culture of the sputum is another area of intense investigation. In many Indian studies and the West mainly Gram positive organisms like Strep pneumoniae are the commonest organisms. But in others gram negative organisms are predominant.^[4] The yield of organism also depends on the setting of infections e.g. community acquired infections have different etiological organisms than hospital acquired infections. Presence of a disease like diabetes and COPD also alters the recovery of organisms from the sputum samples. Sputum AFB should be done in patients not responding to treatment in usual manner. Sputum and

Access this article online	
Quick Response Code: 	Website: www.lungindia.com
	DOI: 10.4103/0970-2113.102793

urine antigen detection tests and assays for diagnosis of atypical organisms other than *Legionella* cannot be recommended strongly for routine use because of questionable sensitivity, specificity and cost effectiveness profile. In severe CAP patients, *Legionella* urinary antigen test can be performed.

Monitoring of the patients and prognostication are very important aspects for managing pneumonia. Simple monitoring parameters like pulse and respiratory rate can be done in home settings. Oximetry if available should be performed in out-patients. In admitted patients with chronic lung disease or if O₂ saturation is less than 90%, an ABG analysis should be performed. In an admitted patient, additional hematological and biochemical tests are required. Biomarkers like procalcitonin and CRP levels may help in differentiating pneumonia from lung infiltrates of non-infective etiology. Various indices are available for deciding about admission and predict prognosis of the illness. CURB 65 score is the simplest of all prognostic scores. Because of simplicity, it is recommended for initial assessment and risk stratification of CAP. People with a CURB 65 ≤ 1 can be managed as out-patients. More complicated but validated scoring systems have been described in the guidelines.

All appropriate spectrum antibiotics are equally effective. The main purpose is to target the Strep pneumoniae. Beta-lactams and macrolides are the most commonly used antibiotics. Combination therapy is recommended for severe pneumonia only. Side effects profile should be carefully selected in any individual patient. Because of the high prevalence of tuberculosis in our country and its relevance to treatment of MDR-TB fluoroquinolones are not recommended as first-line empiric treatment of CAP.

Compliance to treatment is an important issue in resource poor and less educated population. CAP is caused by microbial organisms and therefore prompt treatment is rewarding under usual circumstances. The compliance can be improved if shorter treatment regimens are recommended. It has been emphasized in the guidelines that short term (even 5-7 days) treatment is as effective as old conventional long term (10-14 days) treatment in therapy of CAP.

According to the guidelines, H. influenza vaccination may be considered for prevention of CAP in adults. The pneumococcal vaccine is indicated in special high risk

groups only e.g. splenectomy, immune compromise, diabetes and patients with chronic organ failure. All current smokers should be advised about smoking cessation.

Health care associated pneumonia (HCAP) is a special setting for the occurrence of pneumonia. Diagnosis and therapy of HCAP has been covered extensively in the guidelines. Culture of organisms however, in our settings is different and may even vary from one organization to another.^[5] Treatment and prevention of HCAP are other important issues covered. According to the guidelines, early and appropriate empiric therapy can be started based on local resistance pattern, complicating factors and cost.

In conclusion, guidelines raise the level of confidence in dealing with any particular disease or condition. Disease phenotypes may differ considerably according to the geographic location depending on various covert or obvious variables. Therefore country specific guidelines are of immense importance. We along with entire editorial team must congratulate and are thankful to the Joint ICS-NCCP committee for their rigorous endeavors in developing national pneumonia guidelines.

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REFERENCES

1. Gupta D, Agarwal R, Aggarwal AN, Singh N, Mishra N, Khilnani GC, et al. Guidelines for diagnosis and management of community-and hospital-acquired pneumonia in adults: Joint ICS/NCCP(I) recommendations. *Lung India* 2012;29:27-62.
2. Bhaskar E, Thobias S, Anthony S, Kumar V, Navaneethan. Vaccination rates for pandemic influenza among pregnant women: An early observation from Chennai, South India. *Lung India* 2012;29:232-5.
3. Agweyu A, Opiyo N, English M. Experience developing national evidence-based clinical guidelines for childhood pneumonia in a low-income setting—making the GRADE? *BMC Pediatr* 2012;12:1.
4. Shah BA, Singh G, Naik MA, Dhobi GN. Bacteriological and clinical profile of community acquired pneumonia in hospitalized patients. *Lung India* 2010;27:54-7.
5. Dandagi GL. Nosocomial pneumonia in critically ill patients. *Lung India* 2010;27:149-53.

How to cite this article: Sharma BB, Singh V. Indian pneumonia guidelines. *Lung India* 2012;29:307-8.