Primary Options Programme Northland

INVESTIGATION AND MANAGEMENT OF COMMUNITY ACQUIRED PNEUMONIA

Patients with SEVERE pneumonia are not eligible for POPN funding as management in the primary setting is considered unsafe.

Patients with MILD pneumonia are not eligible for POPN funding as management in the primary setting is not considered appropriate as they would normally be managed by their GP.

Patients with a MODERATELY severe pneumonia are potentially eligible for POPN funding provided that management can be undertaken safely.

Ref “POAC guideline on the assessment and management of moderately severe Adult Community Acquired Pneumonia”.

GUIDELINE ON THE ASSESSMENT AND MANAGEMENT OF MODERATELY SEVERE ADULT COMMUNITY ACQUIRED PNEUMONIA

1. AETIOLOGY AND EPIDEMIOLOGY

No organism is identified in 20-40% of cases

- *Streptococcus pneumoniae* is the most commonly identified organism (especially in winter and in crowded settings)
- *Mycoplasma pneumoniae* is more common in epidemics
- *H influenzae* is more common in COPD and those over 65
- *Influenza virus* ((more common in the winter)
- *Staphylococcus aureus* (uncommon) occurs more in the winter and may be associated with the influenza virus. It causes severe illness with a high mortality.
- *Gram negative enteric bacilli* are uncommon
- *Legionella*
- Atypical pathogens include *Mycoplasma pneumonia, Chlamydia pneumoniae & Chlamydophilis psittaci* (the latter is uncommon) *Mycoplasma* is more common during epidemic periods.
- Aspiration is a risk in the elderly (especially in Residential Care Facilities) – 10% have coincidental *S aureus*; usually multiple organisms including anaerobes.
- Bacteraemia is more common in diabetics.
- With severe illness *Legionella* and *Staphylococcal* infections are more common
- *Moraxella catarrhalis*. 
2. CLINICAL ASSESSMENT OF SEVERITY

Assessment of severity is crucial to the safe management of CAP

POPN use a CRB /CURB tool to assess severity.
Selecting the most appropriate site of care is the single most important decision in the overall management and is to a large extent determined by the severity of the patient’s illness. An accurate assessment of severity requires clinical judgment, which in turn depends on the experience and skill of the clinician.

CAP is a serious disease with a significant mortality. Recovery will be determined by appropriate and timely intervention. There is a need for ongoing vigilance as deterioration can occur rapidly.

Note also the following points:

AGE

Age over 65 is in the exclusion criteria for POPN. However fitness may not be related to age directly. Therefore if the clinician considers the over 65 yr old to be fit and no other high severity exclusion factors are present then POPN will allow CAP to be funded at the clinician’s own risk. Be aware that by including this severity factor that the mortality rate increases to 3-5%. Therefore extra vigilance and close monitoring will be essential.

UREA

If a recent result is available it should be used in the severity assessment. Otherwise it should be included in the requested lab test and used at reassessment. Note: If the urea is >7mmoll/l, and the age is over 65 the mortality rate rises up to 9% and referral to hospital should be given serious consideration.

DIFFERENTIAL DIAGNOSIS

- Influenza
- Asthma and COPD
- Pleurisy
- Bronchiectasis
- Pneumothorax
• CHF and Cardiac Ischaemia
• Pulmonary Embolism
• Lung Cancer and other Lung Pathologies
• Inhaled Gastric Contents & Foreign Bodies.
• Tuberculosis

CLINICAL FEATURES

• The aim is to identify the 5-12% with moderate community acquired pneumonia from the majority with acute non-pneumonic lower respiratory tract infections or other diagnoses.
• This is particularly difficult in the presence of co-morbid illnesses such as LVF, chronic lung disease or COPD and those over 65 yrs of age who frequently present with non-specific symptoms and an absence of chest signs.
• Making an accurate diagnosis of CAP therefore requires an x-ray
• The aetiological agent causing CAP cannot be accurately predicted from clinical features.
• Pneumonia can present atypically in as many as 22% and this can lead to diagnostic uncertainty.
• Remember to ask about occupation, travel and hospitalization within the last two weeks.
• Hobbies (eg. bird keeping, gardening with potting mix)
• Of note, bacteraemic pneumococcal pneumonia is more likely if one of the following features is present
  - Female
  - History of no cough or a non productive cough
  - Excess alcohol
  - Diabetes mellitus
  - COPD
  - New onset confusion.

POPN notes should include HR, RR, O2 Sats, temp, chest auscultation notes, clinical picture.

Please refer to the World Health organization guidelines for the diagnosis of pneumonia.

POPN recommends the CURB-65 (Confusion, Urea, Respiratory rate, Blood Pressure, age) assessment tool to assess the severity of the patients CAP. A score of 1-2 under the CURB tool would indicate moderate pneumonia which would be eligible for funding under POPN if the patient fits the criteria. Social circumstances must also be considered when making the assessment (Urea levels may not be available).
CURB-65

Risk factors

- Confusion
- Urea >7mmol/l (Blood Urea Nitrogen >19)
- Respiratory rate > 30 Breaths per minute
- Blood pressure < 90 mmHg systolic or 60mmHg diastolic
- Age 65 or older

Scoring – Each risk factor scores one point, for a maximum score of 5.

Analysis

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<thead>
<tr>
<th>Score</th>
<th>Mortality</th>
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<tbody>
<tr>
<td>0</td>
<td>0.7%</td>
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<tr>
<td>1</td>
<td>3.2%</td>
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<tr>
<td>2</td>
<td>13%</td>
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<td>3</td>
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<tr>
<td>4</td>
<td>41.5%</td>
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<tr>
<td>5</td>
<td>57%</td>
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</tbody>
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3. MANAGEMENT (when eligible for POPN i.e. 1-2 severity)

Day one

- Urgent chest x-ray with rapid reporting (same day, latest next morning)
- Urgent lab tests: CBC, Urea, Electrolytes, Glucose, LFT and CRP
- Advise rest, avoiding smoking, adequate fluids and nutrition
- Consider rest home placement for suitable short term observation under POPN
- Confirm caregiver and arrange for follow up within 24 hours
- Start antibiotic therapy as appropriate (see below)

Day two

- Review investigations and clinical progress
- Review of therapy is appropriate (oral or second IV)
- Admit to hospital if condition has deteriorated

Day three - four

- Assess if stable on oral therapy (or if had a second IV, ready to switch to oral)
- Admit to hospital if condition has not improved
Day five – if indicated

- Review progress
- Admit to hospital if condition has not improved
- Arrange to follow up with chest x-ray at 6 weeks.

4. ANTIbiOTIC THERAPY

**Low risk patients**: Amoxicillin 500 mg 8 hourly orally + Roxithromyci 300mg daily orally for 7-10 days

OR

**Smoking or CORD patients (+higher risk)** – Amoxycillin/clavulanate IV 1.2g 12 hourly or oral Amoxycillin/clavulanate 500/125 mg 8 hourly plus Roxithromycin 300 mg daily.

If the patient is allergic to Amoxicillin: Not eligible for Primary Options.

**N.B.** IV augmentin is available from your local pharmacy. Please contact them for supplies of this. If you have any problems getting supplies of IV augmentin please call Primary options Coordinator on 021847567

FOLLOWED BY ORAL ANTIBIOTICS AS ABOVE.

Please note:

- Monotherapy is usually successful however atypical coverage is also appropriate to cover (with Roxithromycin).
- 12 hourly IV antibiotics may not be practical therefore IV treatment may be resumed following oral therapy if the patient may benefit from this following clinical judgment e.g. The first dose of IV abs given in surgery then oral dose at home in the evening and back in the morning for another IV dose.

Please refer to drug profile page.

5. **LOW SEVERITY COMMUNITY ACQUIRED PNEUMONIA**
Clinical judgment is essential with individual management based on all the clinical information available at the time.

The following are important prognostic factors which could increase the level of concern even if the clinical features suggest a low severity illness.

- Over 65 years
- Bedridden
- Residential care
- Co-morbid illnesses

Initial treatment is considered standard general practice and so it is not eligible for POPN funding. If the patient’s condition subsequently deteriorates to moderately severity then a POPN claim can be initiated.

There will most likely be fever, cough and new focal chest signs suggesting CAP with other diagnoses being unlikely.

Social circumstances must be considered.