Supplementary Online Content


**eFigure 1.** PCT Algorithm for Antibiotic Stewardship  
**eFigure 2.** Kaplan-Meier Estimates of Time to Primary End Point

This supplementary material has been provided by the authors to give readers additional information about their work.
eFigure 1. PCT Algorithm for Antibiotic Stewardship

Procalcitonin (PCT) algorithm for stewardship of antibiotic therapy in patients with LRTI

- **< 0.1 μg/l**
  - Bacterial etiology very unlikely
  - **NO antibiotics!**

- **0.1 - 0.25 μg/l**
  - Bacterial etiology unlikely
  - **no antibiotics**

- **> 0.25 – 0.5 μg/l**
  - Bacterial etiology likely
  - **Antibiotics yes**

- **>0.5 μg/l**
  - Bacterial etiology Very likely
  - **Antibiotics YES!**

**Control PCT after 6-24 hours**

Initial antibiotics can be considered in case of:
- Respiratory or hemodynamic instability
- Life-threatening comorbidity
- Need for ICU admission
- **PCT < 0.1 μg/l:** CAP with PSI V or CURB65 >3, COPD with GOLD IV
- **PCT < 0.25 μg/l:** CAP with PSI ≥IV or CURB 65>2, COPD with GOLD > III
- Localised infection (abscess, empyema), L.pneumophilia
- Compromised host defense (e.g. immuno-suppression other than corticosteroids)
- Concomitant infection in need of antibiotics

**Consider the course of PCT**

If antibiotics are initiated:
- Repeated measurement of PCT on days 3, 5, 7
- Stop antibiotics using the same cut offs above
- If initial PCT levels are >5-10 μg/l, then stop when 80-90% decrease of peak PCT
- If initial PCT remains high, consider treatment failure (e.g. resistant strain, empyema, ARDS)
- **Outpatients:** duration of antibiotics according to the last PCT result:
  - **>0.25-0.5 μg/l:** 3 days
  - **>0.5 - 1.0 μg/l:** 5 days
  - **>1.0 μg/l:** 7 days

**Abbreviations:** PCT procalcitonin, CAP community-acquired pneumonia, PSI pneumonia severity index, COPD chronic obstructive pulmonary disease, GOLD global initiative for obstructive lung disease,
eFigure 2. Kaplan-Meier Estimates of Time to Primary End Point

**All patients (n=1359)**

- **Proportion with combined adverse outcome**
- **Days since randomization**
- **No. at risk**
  - PCT: 671, 605, 579, 568
  - Control: 688, 598, 576, 558

**CAP (n=925)**

- **Proportion with combined adverse outcome**
- **Days since randomization**
- **No. at risk**
  - PCT: 460, 408, 394, 386
  - Control: 465, 396, 383, 371

**Exacerbation of COPD (n=228)**

- **Proportion with combined adverse outcome**
- **Days since randomization**
- **No. at risk**
  - PCT: 115, 108, 101, 100
  - Control: 113, 101, 95, 92

**Acute bronchitis (n=151)**

- **Proportion with combined adverse outcome**
- **Days since randomization**
- **No. at risk**
  - PCT: 69, 66, 64, 63
  - Control: 82, 76, 76, 74

Red lines refer to PCT guidance, blue lines to control

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