Figure 1

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

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

- **0.1 - 0.26 μg/l**
  - Bacterial etiology unlikely
  - no antibiotics

- **>0.26 - 0.5 μg/l**
  - Bacterial etiology likely
  - Antibiotics yes

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

Remeasure 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 CURB ≥ 4, COPD with GOLD IV
- PCT < 0.26 μg/l: CAP with PSI ≥ IV or CURB ≥ 3, COPD with GOLD ≥ III
- Localised infection (abscess, empyema)
- Compromised host defense (e.g., immunosuppression 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 >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:
  - >0.26 - 0.5 μg/l: 3 days
  - >0.5 - 1.0 μg/l: 5 days
  - >1.0 μg/l: 7 days