

Appendix 1. Definition of CHD

In patients under suspicion of coronary artery disease, angiographic assessment performed by experienced interventional cardiologists identifies stenosis measuring $\geq 50\%$ within any major coronary artery or its primary branch vessels(8).

Appendix 2. Diagnostic Criteria for CAP

CAP was diagnosed according to the following criteria(9): (1) community-acquired symptom onset within 10 days prior to hospital presentation; (2) one or more clinical signs including fever, cough, sputum expectoration, or aggravation of underlying respiratory symptoms ($\pm$ purulent sputum, chest discomfort, dyspnea, hemoptysis); pulmonary consolidation or rales on physical examination; peripheral leukocyte count $> 10 \times 10^9$ or $< 4 \times 10^9$, with or without neutrophil left shift; (3) chest imaging reveals newly developed patchy infiltrates, lobar or segmental consolidation, ground-glass opacities, or interstitial changes, accompanied or unaccompanied by pleural effusion.

Appendix 3. Colonizing Bacteria and Pathogens

Due to the difficulty in strictly distinguishing colonizing from pathogens(10), strains identified as pure or dominant isolates in at least two sputum cultures results from patients meeting the diagnostic criteria for CAP infection were included as pathogens for analysis.

Appendix 4. Quality Control

Appendix 4.1 The quality assessment of sputum specimens

Prior to laboratory testing, all expectorated sputum specimens underwent quality assessment by Gram-stained smear microscopy under low-power fields (LPF, $\times 100$). Specimens with < 10 squamous epithelial

cells and >25 polymorphonuclear neutrophils per LPF were defined as acceptable lower-respiratory-tract samples(11).

Appendix 4.2 Quality control of clinical data

A unified set of inclusion and exclusion criteria was adopted for participant screening in this study, with ineligible patients excluded uniformly. Data were compiled in Microsoft Excel, and two medical staff performed independent data extraction followed by cross-verification to ensure data accuracy.

Appendix 5. Diagnostic Criteria for Multidrug-Resistant(MDR)

MDR infection was defined as resistance to three or more conventional antimicrobial classes, including antipseudomonal cephalosporins, antipseudomonal carbapenems, β -lactamase-inhibitor combinations, fluoroquinolones, and aminoglycosides(12).

Appendix 6. Microbial Culture

Sputum expectorated by pulmonary infection patients was sampled. Blood agar and chocolate agar plates were used for sputum specimen inoculation, and cultivation was performed at 37 °C in an environment containing 5% CO₂ over 24 – 48 h. Bacterial isolates were purified by sub-culture.

Supplementary Table 1. Detection of MDR bacteria.

Pathogens	Strain(%)	MDR (%)
<i>Klebsiella pneumoniae</i>	44(28.95)	5(11.36)
<i>Acinetobacter baumannii</i>	24(15.79)	4(16.67)
<i>Escherichia coli</i>	5(3.29)	4(80.00)
<i>Pseudomonas aeruginosa</i>	20(13.16)	1(5.00)
others gram-negative bacterium	45(29.60)	6(13.33)
<i>Staphylococcus aureus</i>	10(6.58)	8(80.00)
others gram-positive bacterium	4(2.63)	3(75.00)
Total	152(100.00)	31(20.39)

References

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