**Compliance with Ethics Guidelines**

Conflict of interest: The authors declare no competing interests.

Ethics approval: The present study was approved by the Ethics Committee of the Second Xiangya Hospital, Central South University, Changsha, China (Noluohong201906). The other centers (include Hunan Provincial People's Hospital, The Third Xiangya Hospital of Central South University, The First Affiliated Hospital of Hunan Medical College, Changsha Hospital of Traditional Chinese Medicine, Huaihua first People's Hospital, The First Hospital of Changsha, Shaoyang First Hospital, Yueyang Central Hospital) have recognized the ethics of the main center. Attachment is the ethics approval document of our center.

Consent to participate and publication: We called every patient enrolled in our study to obtain verbal consent (due to COVID-19) during retrospective data collection, and excluded patients who were not contacted or who did not obtain verbal consent.

**Table S1  Risk factors for severe pneumonia, ICU admission and hospital death by univariate logistic analysis**

| Factors | Severe pneumonia OR(95%CI) | p | ICU admission OR(95%CI) | p | Hospital death OR(95%CI) | p |
|---|---|---|---|---|---|---|
| Age | 1.05 (1.01-1.08) | 0.007 | 1.03 (1.00-1.06) | 0.098 | 0.99 (0.94-1.04) | 0.657 |
| APACHEII | 1.33 (1.17-1.51) | 0 | 1.22 (1.10-1.34) | 0 | 1.22 (1.10-1.36) | 0 |
| SOFA | 2.06 (1.50-2.84) | 0 | 1.51 (1.21-1.88) | 0 | 1.40 (1.13-1.74) | 0.002 |
| PSI | 4.23 (2.31-7.76) | 0 | 2.18 (1.45-3.28) | 0 | 3.95 (1.84-8.49) | 0 |
| AirwayDnaNum | 1.00 (1.00-1.00) | 0.242 | 1.00 (1.00-1.00) | 0.301 | 1.00 (1.00-1.00) | 0.685 |
| DnaNum | 1.00 (1.00-1.00) | 0.232 | 1.00 (1.00-1.00) | 0.287 | 1.00 (1.00-1.00) | 0.704 |
| WBC | 1.10 (0.99-1.21) | 0.063 | 1.00 (0.91-1.09) | 0.932 | 1.10 (0.95-1.27) | 0.194 |
| NeuPercent | 1.07 (1.01-1.13) | 0.015 | 1.08 (1.02-1.14) | 0.005 | 1.16 (1.01-1.34) | 0.041 |
| LymphPercent | 0.83 (0.74-0.93) | 0.001 | 0.90 (0.82-0.98) | 0.02 | 0.70 (0.55-0.90) | 0.006 |
| NLR | 1.07 (1.03-1.12) | 0.002 | 1.01 (0.99-1.04) | 0.215 | 1.01 (0.99-1.02) | 0.433 |
| HGB | 0.98 (0.96-1.00) | 0.084 | 0.99 (0.97-1.01) | 0.247 | 1.00 (0.97-1.03) | 0.949 |
| PLT | 1.00 (0.99-1.00) | 0.165 | 1.00 (0.99-1.00) | 0.289 | 0.99 (0.98-1.00) | 0.04 |
| ALT | 1.00 (1.00-1.01) | 0.916 | 1.00 (1.00-1.01) | 0.34 | 1.00 (0.98-1.01) | 0.478 |
| AST | 1.00 (1.00-1.00) | 0.599 | 1.00 (1.00-1.01) | 0.089 | 1.00 (1.00-1.00) | 0.717 |
| ALB | 0.87 (0.79-0.96) | 0.005 | 0.93 (0.86-1.02) | 0.118 | 0.97 (0.83-1.13) | 0.692 |
| GlB | 0.89 (0.80-0.99) | 0.03 | 1.01 (0.92-1.11) | 0.874 | 0.89 (0.75-1.06) | 0.196 |
| AGR | 0.69 (0.13-3.62) | 0.659 | 0.22 (0.04-1.27) | 0.09 | 2.65 (0.18-38.15) | 0.475 |
| TBIL | 1.06 (0.99-1.13) | 0.1 | 1.03 (0.98-1.09) | 0.24 | 0.96 (0.84-1.09) | 0.521 |
| DBIL | 1.10 (1.01-1.20) | 0.035 | 1.04 (0.97-1.11) | 0.24 | 0.98 (0.86-1.11) | 0.755 |
| BUN | 1.59 (1.21-2.08) | 0.001 | 1.10 (1.00-1.22) | 0.048 | 1.07 (0.99-1.16) | 0.082 |
| Crea | 1.02 (1.00-1.03) | 0.033 | 1.00 (1.00-1.01) | 0.294 | 1.00 (1.00-1.01) | 0.207 |
| CK | 1.00 (1.00-1.00) | 0.412 | 1.00 (1.00-1.00) | 0.151 | 1.00 (1.00-1.00) | 0.557 |
| LDH | 1.00 (1.00-1.00) | 0.089 | 1.00 (1.00-1.01) | 0.01 | 1.00 (1.00-1.00) | 0.201 |
| ESR | 0.99 (0.97-1.01) | 0.38 | 0.99 (0.97-1.01) | 0.27 | 0.98 (0.95-1.01) | 0.143 |
| PCT | 1.18 (1.06-1.31) | 0.002 | 1.04 (1.00-1.08) | 0.081 | 1.01 (0.97-1.05) | 0.753 |
| Ddimer | 1.32 (1.09-1.59) | 0.004 | 1.14 (0.99-1.30) | 0.065 | 1.11 (0.99-1.26) | 0.076 |
| PH | 0.09 (0.00-39.69) | 0.439 | 1.14 (0.00-366.83) | 0.965 | 0.00 (0.00-2.70) | 0.091 |
| PCO2 | 1.06 (0.99-1.14) | 0.098 | 1.11 (1.01-1.21) | 0.032 | 1.07 (1.00-1.14) | 0.054 |
| Onset To Hospital Day | 1.00 (0.91-1.10) | 0.926 | 0.97 (0.88-1.06) | 0.476 | 0.93 (0.76-1.13) | 0.452 |
| Hospital Day | 1.12 (1.04-1.21) | 0.002 | 1.10 (1.02-1.17) | 0.009 | 0.97 (0.87-1.08) | 0.574 |
| ICU Day | 1.32 (1.14-1.51) | 0 | / | 1 | 1.16 (1.06-1.26) | 0.001 |
| Gender | 1.11 (0.49-2.53) | 0.796 | 1.19 (0.53-2.69) | 0.678 | 1.58 (0.32-7.87) | 0.577 |
| Smoke History | 0.99 (0.39-2.51) | 0.98 | 0.30 (0.11-0.84) | 0.022 | 0.45 (0.05-3.75) | 0.46 |
| Expose History | 1.23 (0.45-3.36) | 0.69 | 1.30 (0.47-3.58) | 0.609 | 1.41 (0.27-7.24) | 0.683 |
| Onset Season | 1.46 (0.99-2.16) | 0.057 | 1.36 (0.93-1.99) | 0.112 | 0.96 (0.50-1.83) | 0.894 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **High Fever** | 0.72 (0.30-1.76) | 0.475 | 0.74 (0.30-1.79) | 0.499 | 2.63 (0.32-21.85) | 0.37 |
| **Fever** | 0.84 (0.11-6.15) | 0.86 | 0.32 (0.03-3.19) | 0.332 | 0 | 0.999 |
| **Cough** | 0.89 (0.42-1.93) | 0.776 | 1.17 (0.54-2.51) | 0.696 | 2.24 (0.45-11.07) | 0.324 |
| **Dyspnea** | 1.59 (0.76-3.33) | 0.215 | 1.75 (0.84-3.65) | 0.138 | 1.81 (0.48-6.80) | 0.378 |
| **Muscle Ache** | 0.43 (0.13-1.47) | 0.179 | 0.51 (0.16-1.64) | 0.26 | / | 0.999 |
| **Headache** | 0.51 (0.21-1.26) | 0.145 | 0.91 (0.38-2.15) | 0.826 | 0.34 (0.04-2.83) | 0.319 |
| **Dizzyness** | 1.38 (0.58-3.27) | 0.464 | 1.63 (0.68-3.90) | 0.274 | 2.41 (0.63-9.25) | 0.201 |
| **Stomach Ache** | 2.43 (0.21-27.59) | 0.473 | 2.04 (0.18-23.09) | 0.566 | / | 0.999 |
| **Diarrhea** | 0.58 (0.10-3.29) | 0.537 | 1.00 (0.19-5.17) | 1 | 2.24 (0.24-21.35) | 0.482 |
| **Fatigue** | 0.90 (0.43-1.87) | 0.776 | 0.76 (0.36-1.58) | 0.456 | 3.16 (0.78-12.91) | 0.109 |
| **Vomit** | 0.88 (0.28-2.71) | 0.821 | 0.72 (0.23-2.23) | 0.57 | 1.96 (0.37-10.32) | 0.428 |
| **Sore Throat** | / | 0.997 | / | 0.997 | / | 0.998 |
| **Runny Nose** | 2.43 (0.21-27.59) | 0.473 | 0.49 (0.04-5.57) | 0.566 | / | 0.999 |
| **Respiratory Symptom** | 2.08 (0.51-8.49) | 0.306 | 1.56 (0.42-5.84) | 0.511 | 0.84 (0.09-7.36) | 0.871 |
| **Nervous Symptom** | 1.02 (0.46-2.22) | 0.97 | 1.27 (0.58-2.78) | 0.55 | 1.47 (0.39-5.58) | 0.567 |
| **Urinary Symptom** | / | 1 | 0.65 (0.11-4.07) | 0.65 | / | 1 |
| **Digest Symptom** | 0.94 (0.34-2.59) | 0.908 | 0.77 (0.28-2.11) | 0.609 | 2.60 (0.60-11.18) | 0.199 |
| **Respiratory Disease** | 2.43 (0.21-27.59) | 0.473 | 2.04 (0.18-23.09) | 0.566 | 26.25 (2.14-321.65) | 0.011 |
| **Diabetes** | 1.39 (0.54-3.58) | 0.497 | 1.42 (0.55-3.68) | 0.471 | 1.14 (0.22-5.83) | 0.871 |
| **Cardiovascular Diseases** | 3.04 (0.75-12.42) | 0.121 | 0.64 (0.17-2.41) | 0.511 | / | 1 |
| **Cerebrovascular Diseases** | 1.20 (0.29-5.07) | 0.8 | 1.73 (0.39-7.60) | 0.468 | 1.57 (0.17-14.23) | 0.688 |
| **Hypertension** | 2.47 (0.94-6.45) | 0.065 | 2.54 (0.95-6.80) | 0.063 | 1.08 (0.21-5.45) | 0.93 |
| **Tumor** | / | 0.997 | / | 0.997 | / | 0.998 |
| **Liver Disease** | 1.83 (0.29-11.38) | 0.517 | 0.65 (0.11-4.07) | 0.65 | 2.83 (0.29-28.11) | 0.374 |
| **Kidney Disease** | 0.59 (0.05-6.65) | 0.667 | 2.04 (0.18-23.09) | 0.566 | / | 0.999 |
| **Digest Disease** | 0.95 (0.24-3.72) | 0.938 | 0.79 (0.20-3.08) | 0.729 | 1.36 (0.15-12.14) | 0.782 |
| **Surgery History** | 0.55 (0.18-1.73) | 0.308 | 0.45 (0.14-1.42) | 0.174 | 1.79 (0.34-9.36) | 0.491 |
| **Complications** | 1.66 (0.79-3.51) | 0.182 | 1.24 (0.59-2.60) | 0.571 | 3.85 (0.94-15.74) | 0.061 |
| **Left Lung Infect** | 0.84 (0.31-2.27) | 0.732 | 0.30 (0.10-0.89) | 0.03 | / | 0.987 |
| **Right Lung Infect** | 0.19 (0.07-0.56) | 0.002 | 0.33 (0.13-0.83) | 0.018 | 1.46 (0.35-6.10) | 0.6 |
| **Bilateral Lung Infect** | 2.80 (1.31-5.99) | 0.008 | 3.18 (1.48-6.86) | 0.003 | 3.42 (0.84-13.96) | 0.087 |
| **Consolidation** | 1.01 (0.40-2.57) | 0.98 | 1.00 (0.40-2.53) | 1 | / | 0.984 |
| **Interstitial Change** | 0.38 (0.04-3.81) | 0.414 | 0.32 (0.03-3.19) | 0.332 | / | 1 |
| **Pleural Effusion** | 1.41 (0.66-3.03) | 0.377 | 1.99 (0.92-4.32) | 0.082 | 1.94 (0.53-7.16) | 0.317 |
| **Lung Image Change** | 1.03 (0.39-2.72) | 0.946 | 1.00 (0.38-2.62) | 1 | / | 1 |
| **Oxygen** | 0.13 (0.05-0.33) | 0 | 0.37 (0.17-0.81) | 0.013 | 0.18 (0.02-1.50) | 0.114 |
| **HighFlow** | 1.54 (0.39-6.04) | 0.539 | 1.27 (0.32-5.00) | 0.729 | / | 1 |
| **Non Invasive Ventilation** | / | 1 | / | 1 | 8.66 (1.71-43.90) | 0.009 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Invasive Ventilation** | / | / | 30.00 (3.86-233.01) | 0.001 | 15.33 (3.54-66.34) | 0 |
| **Respir Therapy Except Oxygen** | 15.32 (4.86-48.23) | 0 | 8.61 (3.01-24.68) | 0 | 14.43 (2.87-72.71) | 0.001 |
| **Combine Bacteria** | 0.84 (0.31-2.27) | 0.732 | 1.13 (0.42-3.04) | 0.802 | 0.54 (0.06-4.56) | 0.574 |
| **Combine Fungal** | 0.87 (0.33-2.26) | 0.773 | 1.12 (0.44-2.89) | 0.81 | 1.14 (0.22-5.83) | 0.871 |
| **CombineVirus** | 1.21 (0.37-4.01) | 0.752 | 1.45 (0.43-4.88) | 0.544 | 0.96 (0.11-8.31) | 0.97 |
| **Combine Infection** | 0.80 (0.37-1.69) | 0.551 | 0.93 (0.44-1.96) | 0.849 | 1.06 (0.28-3.97) | 0.935 |
| **Before Use Tetracycline Quinolo** | 5.85 (1.55-22.04) | 0.009 | 3.16 (0.94-10.59) | 0.062 | 3.36 (0.76-14.75) | 0.109 |
| **Before Use Other Antibacteria** | 0.98 (0.47-2.05) | 0.953 | 0.87 (0.42-1.81) | 0.708 | 0.74 (0.20-2.70) | 0.646 |
| **After Use Tetracycline** | 2.73 (1.20-6.19) | 0.016 | 1.78 (0.80-3.99) | 0.159 | 3.98 (1.05-15.14) | 0.043 |
| **After Use Quinolones** | 0.32 (0.15-0.69) | 0.003 | 0.26 (0.12-0.55) | 0.001 | / | 1 |

Table S2-1. Demographics and baseline characteristics of 116 patients with Chlamydia psittaci pneumonia .

| Variables | All patients (N=116) | Non Severe group (N=63) | Severe group (N=53) | p-values (<0.050) | Survival group (N=106) | None Survival group (N=10) | p-values (<0.050) |
|---|---|---|---|---|---|---|---|
| Age, years | 59.7 (12.5) | 56.7 (13.0) | 63.2 (11.1) | 0.005 | 59.8 (12.5) | 58.0 (13.7) | 0.659 |
| 18-49 | 24 (20.7%) | 20 (31.7%) | 4 (7.5%) | 0.001 | 22 (20.8%) | 2 (20.0%) | 0.955 |
| 50-64 | 45 (38.8%) | 22 (34.9%) | 23 (43.4%) | 0.351 | 40 (37.7%) | 5 (50.0%) | 0.447 |
| 65- | 47 (40.5%) | 21 (33.3%) | 26 (49.1%) | 0.086 | 44 (41.5%) | 3 (30.0%) | 0.479 |
| Sex | | | | 0.796 | | | 0.574 |
| Male | 84 (72.4%) | 45 (71.4%) | 39 (73.6%) | | 76(71.7%) | 8(80%) | |
| Female | 32(27.6%) | 18(28.6%) | 14(26.4%) | | 30(28.3%) | 2(20%) | |
| Smoke History | 22 (19.0%) | 12 (19.0%) | 10 (18.9%) | 0.980 | 21 (19.8%) | 1 (10.0%) | 0.449 |
| Expose History | 18 (15.5%) | 9 (14.3%) | 9 (17.0%) | 0.690 | 16 (15.1%) | 2 (20.0%) | 0.682 |
| Oneset Seasons | | | | | | | |
| Spring | 14 (12.1%) | 11 (17.5%) | 3 (5.7%) | 0.052 | 13 (12.3%) | 1 (10.0%) | 0.834 |
| Summer | 18 (15.5%) | 10 (15.9%) | 8(15.1%) | 0.908 | 16 (15.1%) | 2 (20.0%) | 0.682 |
| Autumn | 45 (38.8%) | 23 (36.5%) | 17 (32.1%) | 0.750 | 41 (38.7%) | 4 (40.0%) | 0.935 |
| Winter | 39 (33.6%) | 19 (30.2%) | 25 (47.6%) | 0.060 | 36 (34.0%) | 3 (30.0%) | 0.8 |
| Coexisting conditions | | | | | | | |
| Any | 47 (40.5%) | 22 (34.9%) | 25 (47.2%) | 0.181 | 40 (37.7%) | 7 (70.0%) | 0.047 |
| Respiratory Disease | 3 (2.6%) | 1 (1.6%) | 2 (3.8%) | 0.46 | 1 (0.9%) | 2 (20.0%) | 0 |
| Diabetes | 21 (18.1%) | 10 (15.9%) | 11 (20.8%) | 0.496 | 19 (17.9%) | 2 (20.0%) | 0.871 |
| Cardiovascular Diseases | 10 (8.6%) | 3 (4.8%) | 7 (13.2%) | 0.106 | 10 (9.4%) | 0 | 0.31 |
| Cerebrovascular Diseases | 8 (6.9%) | 4 (6.3%) | 4 (7.5%) | 0.8 | 7 (6.6%) | 1 (10.0%) | 0.685 |
| Hypertension | 22 (19.0%) | 8 (12.7%) | 14 (26.4%) | 0.06 | 20 (18.9%) | 2 (20.0%) | 0.93 |
| Tumor | 1 (0.9%) | 1 (1.6%) | 0 | 0.357 | 1 (0.9%) | 0 | 0.758 |
| Liver Disease | 5 (4.3%) | 2 (3.2%) | 3 (5.7%) | 0.511 | 4 (3.8%) | 1 (10.0%) | 0.354 |
| Kidney Disease | 3 (2.6%) | 2 (3.2%) | 1 (1.9%) | 0.663 | 3 (2.8%) | 0 | 0.59 |
| Digest Disease | 9 (7.8%) | 5 (7.9%) | 4 (7.5%) | 0.938 | 8 (7.5%) | 1 (10.0%) | 0.782 |
| Surgery History | 15 (12.9%) | 10 (15.9%) | 5 (9.4%) | 0.303 | 13 (12.3%) | 2 (20.0%) | 0.486 |
| Time from illness onset to first hospital admission | 7.0 (6.0-9.2) | 7.0 (4.5-9.0) | 7.0 (7.0-9.0) | 0.268 | 15 (14.2%) | 3 (30.0%) | 0.186 |
| Signs and symptoms | | | | | | | |
| High Fever | 91 (78.4%) | 51 (81.0%) | 40 (75.5%) | 0.475 | 82 (77.4%) | 9 (90.0%) | 0.353 |
| Fever | 112 (96.6%) | 61 (96.8%) | 51 (96.2%) | 0.860 | 89 (84.0%) | 10 (100.0%) | 0.17 |
| Cough | 76 (65.5%) | 42 (66.7%) | 34 (64.2%) | 0.776 | 68 (64.2%) | 8 (80.0%) | 0.313 |

| | All | Non Severe | Severe | p-values | Survive | None Survive | p-values |
|---|---|---|---|---|---|---|---|
| Dyspnea | 54 (46.6%) | 26 (41.3%) | 28 (52.8%) | 0.214 | 48 (45.3%) | 6 (60.0%) | 0.372 |
| Muscle Ache | 14 (12.1%) | 10 (15.9%) | 4 (7.5%) | 0.170 | 14 (13.2%) | 0 | 0.22 |
| Headache | 27 (23.3%) | 18 (28.6%) | 9 (17.0%) | 0.141 | 26 (24.5%) | 1 (10.0%) | 0.299 |
| Dizzyness | 27 (23.3%) | 13 (20.6%) | 14 (26.4%) | 0.463 | 23 (21.7%) | 4 (40.0%) | 0.19 |
| Stomach Ache | 3 (2.6%) | 1 (1.6%) | 2 (3.8%) | 0.460 | 3 (2.8%) | 0 | 0.59 |
| Diarrhea | 6 (5.2%) | 4 (6.3%) | 2 (3.8%) | 0.533 | 5 (4.7%) | 1 (10.0%) | 0.471 |
| Fatigue | 52 (44.8%) | 29 (46.0%) | 23 (43.4%) | 0.776 | 45 (42.5%) | 7 (70.0%) | 0.094 |
| Vomit | 14 (12.1%) | 8 (12.7%) | 6 (11.3%) | 0.821 | 12 (11.3%) | 2 (20.0%) | 0.421 |
| Runny Nose | 3 (2.6%) | 1 (1.6%) | 2 (3.8%) | 0.460 | 1 (0.9%) | 0 | 0.758 |
| **Severity of Illness Scores** | 18 (15.5%) | | | | | | |
| APACHEII | 11.0 (9.0-13.2) | 9.4 (3.8) | 13.0 (11.0-18.0) | 0.000 | 11.0 (9.0-13.0) | 19.4 (6.9) | 0.001 |
| SOFA | 2.0 (1.0-3.0) | 2.0 (0.5-2.0) | 3.0 (2.0-6.0) | 0.000 | 2.0 (1.0-3.0) | 5.4 (2.2) | 0 |
| PSI | 2.9 (1.1) | 3.0 (1.5-3.0) | 3.0 (3.0-4.0) | 0.000 | 2.8 (1.1) | 4.2 (0.9) | 0 |

Values are numbers (percentages) or Medium (IQR) unless stated otherwise. Percentages do not total 100% owing to missing data.

APACHE II, Acute Physiology and Chronic Health Evaluation II; SOFA, Sequential Organ Failure Assessment. PSI, Pneumonia severity index

**Table S2-2. Radiographic and laboratory findings of 116 patients with chlamydia psittaci pneumonia.**

| Variables | All patients (N=116) | Non Severe group (N=63) | Severe group (N=53) | p-values (<0.050) | Survive group (N=106) | None Survive group (N=10) | p-values (<0.050) | Normal range |
|---|---|---|---|---|---|---|---|---|
| **Computed Tomography im** | N=96 | N=52 | N=44 | | N=86 | N=10 | | |
| Left pulmonary involvemer | 20 (20.8%) | 11 (21.2%) | 9 (20.5%) | 0.933 | 20 (23.3%) | 0 (0%) | 0.087 | / |
| Right pulmonary involvem | 27 (28.1%) | 22 (42.3%) | 5 (11.4%) | 0.001 | 24 (27.9%) | 3 (30.0%) | 0.889 | / |
| Bilateral pulmonary involv | 51 (53.1%) | 21 (40.4%) | 30 (68.2%) | 0.007 | 44 (51.2%) | 7 (70.0%) | 0.259 | / |
| Consolidation | 95 (99.0%) | 51 (98.1%) | 44 (100.0%) | 0.355 | 85 (98.8%) | 10 (100.0%) | 0.732 | / |
| Interstitial change | 5 (5.2%) | 3 (5.8%) | 2 (4.5%) | 0.788 | 5 (5.8%) | 0 (0%) | 0.434 | / |
| Pleural effusion | 42 (43.8%) | 20 (38.5%) | 22 (50.0%) | 0.256 | 37 (43.0%) | 5 (50.0%) | 0.674 | / |
| **Metagenomics next generation sequencing** | | | | | | | | |
| DNA sequence number of | 100.0 (23.8-372.8) | 56.0 (9.5-202.5) | 13.0 (57.0-531.0 | 0.015 | 100.0 (20.0-301.8) | 593.9 (641.4) | 0.03 | / |
| Combine detection of bact | 19.0 (16.4%) | 11.0 (17.5%) | 8.0 (15.1%) | 0.732 | 18.0 (17.0%) | 1.0 (10.0%) | 0.569 | / |
| Combine detection of fung | 21.0 (18.1%) | 12.0 (19.0%) | 9.0 (17.0%) | 0.773 | 19.0 (17.9%) | 2.0 (20.0%) | 0.871 | / |
| Combine detection of virus | 12.0 (10.3%) | 6.0 (9.5%) | 6.0 (11.3%) | 0.752 | 11.0 (10.4%) | 1.0 (10.0%) | 0.970 | / |
| **Blood routine** | | | | | | | | |
| White blood cell count (×1 | 7.8 (5.6-10.4) | 7.6 (5.8-9.5) | 9.3 (4.8) | 0.228 | 7.8 (5.4-10.2) | 10.1 (4.5) | 0.244 | 4.00-10.00 |
| Neutrophil percentage (%) | 87.1 (82.0-90.8) | 86.8 (80.7-89.2) | 89.0 (85.1-93.7) | 0.003 | 87.1 (81.9-90.6) | 90.7 (5.0) | 0.034 | 50.00-70.00 |
| Lymphocyte percentage (% | 7.3 (5.1-10.0) | 7.4 (7.3-11.0) | 6.5 (3.5-7.4) | 0 | 7.3 (6.0-10.3) | 4.3 (2.4) | 0.002 | 20.00-40.00 |

| Variables | All patients | Non Severe group | Severe group | p-values | Survive group | None Survive group | p-values | Reference range |
|---|---|---|---|---|---|---|---|---|
| Neutrophil-to-Lymphocyte | 12.1 (8.2-17.1) | 11.9 (7.6-12.1) | 13.7 (12.1-26.4) | 0 | 12.1 (8.2-15.2) | 27.4 (14.8) | 0.002 | 1.25-3.5 |
| Haemoglobin (g/L) | 115.0 (106.8-121.0) | 115.0 (110.5-127.5) | 109.4 (17.3) | 0.041 | 115.0 (106.2-121.0) | 112.5 (14.4) | 0.968 | 110-160 |
| Platelet count (×109/L) | 190.0 (166.0-207.5) | 190.0 (168.0-217.5) | 182.9 (66.6) | 0.257 | 190.0 (169.2-216.5) | 150.7 (58.6) | 0.031 | 100-300 |
| **Biochemistry tests** | | | | | | | | |
| Albumin (g/L) | 28.2 (4.4) | 29.3 (4.5) | 26.9 (3.8) | 0.003 | 28.2 (4.4) | 27.7 (3.8) | 0.695 | 35.0-55.0 |
| Globulin (g/L) | 26.9 (26.4-27.4) | 27.6 (3.8) | 26.0 (3.8) | 0.018 | 26.9 (26.9-27.5) | 25.4 (5.5) | 0.14 | 20.2-29.5 |
| Albumin-to-Globumin Rati | 1.1 (1.1-1.1) | 1.1 (1.1-1.1) | 1.1 (1.1-1.1) | 0.749 | 1.1 (1.1-1.1) | 1.1 (0.3) | 0.682 | 1.5-2.5 |
| Alanine aminotransferase ( | 63.5 (47.8-99.3) | 63.5 (44.0-97.2) | 63.5 (48.2-98.9) | 0.644 | 63.5 (48.7-100.1) | 68.1 (28.3) | 0.714 | 0.0-42.0 |
| Aspartate aminotransferase | 100.1 (57.9-146.1) | 100.1 (50.2-138.9) | 00.1 (77.6-156.0 | 0.109 | 100.1 (57.2-144.3) | 143.0 (78.8) | 0.221 | 0.0-37.0 |
| Total bilirubin (µmol/L ) | 12.7 (12.7-12.8) | 12.7 (12.1-12.7) | 12.7 (12.7-14.8) | 0.422 | 12.7 (12.7-13.5) | 12.2 (9.7-12.7) | 0.101 | 3.4-17.1 |
| Direct bilirubin (µmol/L ) | 6.3 (6.2-6.8) | 6.3 (6.0-6.3) | 6.3 (6.3-9.5) | 0.228 | 6.3 (6.3-7.5) | 6.2 (5.0-6.3) | 0.156 | 0.0-6.0 |
| Blood urea nitrogen (mmol | 5.8 (5.7-6.3) | 5.3 (1.7) | 5.8 (5.8-9.4) | 0.000 | 5.8 (5.7-5.8) | 10.5 (7.0) | 0.097 | 2.9-7.14 |
| Creatinine (µmol/L) | 74.8 (69.8-80.0) | 73.4 (17.0) | 74.8 (74.8-95.2) | 0.035 | 74.8 (71.2-79.0) | 74.8 (62.8-122.8) | 0.955 | 44.0-133.0 |
| Creatine kinase (U/L) | 237.0 (227.4-274.0 | 237.0 (160.5-237.0) | 37.0 (237.0-326.0 | 0.296 | 237.0 (208.3-258.0) | 296.7 (122.6) | 0.395 | 10.0-190.0 |
| Lactate dehydrogenase (U/ | 394.7 (393.4-396.0 | 394.7 (307.1-394.7) | 94.7 (394.7-482.0 | 0.006 | 394.7 (383.4-394.7) | 508.8 (210.8) | 0.127 | 80.0-245.0 |
| **Infection biomakers** | | | | | | | | |
| Erythrocyte sedimentation | 86.0 (81.8-89.0) | 86.0 (86.0-90.5) | 86.0 (75.0-87.0) | 0.256 | 86.0 (83.0-89.8) | 75.1 (20.0) | 0.146 | 0.0-15.0 |
| High-sensitivity C-reactive | 162.0 (107.2-240.1 | 149.0 (79.3-198.2) | 197.6 (95.3) | 0.011 | 162.0 (94.1-232.3) | 221.7 (93.9) | 0.095 | 0.0-8.0 |
| Procalcitonin(ng/ml) | 1.1 (0.3-4.9) | 0.5 (0.2-1.1) | 3.9 (1.1-9.8) | 0.000 | 1.1 (0.3-3.6) | 7.2 (5.6) | 0.009 | 0.0-0.05 |
| D-dimer (ng/mL) | 1.8 (1.4-3.2) | 1.8 (1.0-1.8) | 1.8 (1.8-4.8) | 0.000 | 1.8 (1.4-3.1) | 2.5 (1.8-8.2) | 0.101 | 0.0-0.05 |
| **Blood gas analysis** | | | | | | | | |
| Hydrogen ion concentratio | 7.5 (7.5-7.5) | 7.5 (7.5-7.5) | 7.5 (7.5-7.5) | 0.234 | 7.5 (7.5-7.5) | 7.4 (0.1) | 0.024 | 7.35-7.45 |
| Partial Pressure of Carbon | 29.1 (29.1-29.1) | 29.1 (29.1-29.1) | 29.1 (29.1-32.0) | 0.062 | 29.1 (29.1-29.1) | 35.0 (9.8) | 0.037 | 35.0-45.0 |
| Oxygenation index(mmHg | 241.0 (241.0-241.0 | 253.0 (68.5) | 41.0 (166.7-241.0 | 0.009 | 241.0 (241.0-241.0) | 194.8 (129.5) | 0.061 | 400.0-500.0 |

Values are numbers (percentages) or Medium (IQR) unless stated otherwise. Percentages do not total 100% owing to missing data.

**Table S2-3. Treatments and clinical outcomes in 116 patients with chlamydia psittaci pneumonia.**

| Variables | All patients (N=116) | Non Severe group (N=63) | Severe group (N=53) | p-values (<0.050) | Survive group (N=106) | None Survive group (N=10) | p-values (<0.050) |
|---|---|---|---|---|---|---|---|
| **Antibiotic treatment** | | | | | | | |
| Use Tetracycline or Quinol | 15 (12.9%) | 3 (4.8%) | 12 (22.6%) | 0.004 | 12 (11.3%) | 3 (30.0%) | 0.092 |
| Use Tetracycline After Dia | 35 (30.2%) | 13 (20.6%) | 22 (41.5%) | 0.015 | 29 (27.4%) | 6 (60.0%) | 0.032 |
| Use Quinolones After Diag | 59 (50.9%) | 40 (63.5%) | 19 (35.8%) | 0.003 | 59 (55.7%) | 0 | 0.001 |
| **Respiratory support** | | | | | | | |
| Oxygen | 41 (35.3%) | 34 (54.0%) | 7 (13.2%) | 0.000 | 40 (37.7%) | 1 (10.0%) | 0.079 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| High-flow Nasal Cannula | 9 (7.8%) | 4 (6.3%) | 5 (9.4%) | 0.536 | 9 (8.5%) | 0 | 0.337 |
| Non-invasive Ventilation | 8 (6.9%) | 0 | 8 (15.1%) | 0.001 | 5 (4.7%) | 3 (30.0%) | 0.003 |
| Invasive Ventilation | 21 (18.1%) | 0 | 21 (39.6%) | 0.000 | 14 (13.2%) | 7 (70.0%) | 0 |
| Respiratory Therapy Excep | 31 (26.7%) | 4 (5.6%) | 27 (60.0%) | 0.000 | 23 (21.7%) | 8 (80.0%) | 0 |
| **Other supportive treatment** | | | | | | | |
| CRRT | 4 (3.4%) | 0 | 4 (7.5%) | 0.026 | 2 (1.9%) | 2 (20.0%) | 0.003 |
| ECMO | 2 (1.7%) | 0 | 2 (3.8%) | 0.120 | 1 (0.9%) | 1 (10.0%) | 0.035 |
| **Length of stay** | | | | | | | |
| Hospital Day | 14.0 (10.0-17.0) | 14.0 (8.0-14.0) | 14.0 (14.0-20.0) | 0.000 | 14.0 (11.0-17.0) | 13.5 (8.4) | 0.512 |
| ICU Day | 0.0 (0.0-4.0) | 0.0 (0.0-0.0) | 3.0 (0.0-14.0) | 0.000 | 0.0 (0.0-2.2) | 10.2 (8.2) | 0 |
| **Outcomes** | | | | | | | |
| Death | 10 (8.6%) | 0 | 10 (18.9%) | 0.000 | 0 | 10 (100.0%) | 0 |
| ICU | 58 (50.0%) | 15 (23.8%) | 43 (81.1%) | 0.000 | 49 (46.2%) | 9 (90.0%) | 0.008 |
| Survive | 106 (91.4%) | 63(100%) | 43(81%) | 0.000 | 106 | 0 | 0 |

Values are numbers (percentages) or Medium (IQR) unless stated otherwise.