**SUPPLEMENTARY MATERIAL**

|  |  |
| --- | --- |
| Study | Definition of severe infection |
| Gao et al. | No definition |
| Guan et al. | According to the American Thoracic Society (ATS) guidelines for community-acquired pneumonia |
| Qin et al. | Respiratory distress with the respiratory rate over 30 per minute, oxygen saturation ≤93% in the resting state, arterial blood oxygen partial pressure (PaO2)/Oxygen concentration (FiO2) ≤300mHg |
| Shi et al. | No definition |
| Tian et al. | Fever, respiratory symptoms and radiographic evidence of pneumonia with dyspnea and respiratory failure |
| Wan et al. | Respiratory distress with the respiratory rate over 30 per minute, oxygen saturation ≤93% in the resting state, arterial blood oxygen partial pressure (PaO2)/Oxygen concentration (FiO2) ≤300mHg |
| Wang et al. 1 | ICU care |
| Wang et al. 2 | SpO2<90% |
| Wu et al. | ARDS |
| Young et al. | Required supplemental O2 |
| Zhang et al. | Respiratory distress with the respiratory rate over 30 per minute, oxygen saturation ≤93% in the resting state, arterial blood oxygen partial pressure (PaO2)/Oxygen concentration (FiO2) ≤300mHg |

**Table S1: Definition of severe infection**

**Table S2: Newcastle-Ottawa Assessment Scale**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Study** | **Selection** |  |  |  | **Comparability** | **Outcome** |  |  | **Total score** |
|  | **Representativeness of exposed cohort** | **Selection of non-exposed cohort** | **Ascertainment of exposure** | **Outcome of interest was not present at start of study** |  | **Assessment of outcome** | **Length of follow-up** | **Adequacy of follow up of cohorts** |  |
| **Gao et al.** | **\*** | **\*** | **\*** | **\*** | **-** | **-** | **\*** | **\*** | **\*\*\*\*\*\*** |
| **Guan et al.** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |
| **Qin et al.** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |
| **Shi et al.** | **\*** | **\*** | **\*** | **\*** | **-** | **-** | **\*** | **\*** | **\*\*\*\*\*\*** |
| **Tian et al.** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |
| **Wan et al.** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |
| **Wang et al. 1** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |
| **Wang et al. 2** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |
| **Wu et al.** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |
| **Younget al.** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |
| **Zhang et al.** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |
| **Tang et al.** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |
| **Yuan t al.** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |
| **Zhou et al.** | **\*** | **\*** | **\*** | **\*** | **-** | **\*** | **\*** | **\*** | **\*\*\*\*\*\*\*** |