**Supplementary Data:**

**S1: List of Antimicrobials and Immunosuppressants included in search**

|  |  |  |
| --- | --- | --- |
| **Antimicrobials** | | |
| Amikacin  Amoxicillin  Amphotericin  Anidulafungin  Azithromycin  Benzylpenicillin  Caspofungin  Cefalexin  Ceftazidime  Ceftriaxone  Cefuroxime  Ciprofloxacin  Clarithromycin | Clindamycin  Co-amoxiclav  Colistin  Co-trimoxazole  Doxycycline  Ertapenem  Erythromycin  Fidaxomicin  Flucloxacillin  Fluconazole  Fosfomycin  Gentamicin  Levofloxacin | Linezolid  Meropenem  Metronidazole  Moxifloxacin  Nitrofurantoin  Piperacillin  Pivmecillinam  Posaconazole  Teicoplanin  Temocillin  Tigecycline  Trimethoprim  Vancomycin  Voriconazole |
| **Immunosuppressants** | | |
| Dexamethasone  Hydrocortisone  Prednisolone  Methylprednisolone  Tocilizumab  *\*exposure to immunosuppressant defined as any single dose of tocilizumab or >1 dose of ≥30mg prednisolone or equivalent (≥4.5mg dexamethasone, 120mg hydrocortisone, 24mg methylprednisolone)* | | |

**S2: Automatic Exclusions for non-significant microbiological cultures according to culture site**

|  |
| --- |
| **Respiratory:**   * All *Candida spp.* * Coagulase-negative *staphylococci* * “Upper respiratory tract flora” where not otherwise specified |
| **Urine:**   * “Mixed growth” without a predominant species * Coagulase-negative *staphylococci*, except for *Staphylococcus saprophyticus* |
| **Wound swabs:**   * Any isolate other than *Staphylococcus aureus*, *Staphylococcus lugdunensis* or beta-haemolytic *streptococci*, e.g. Group A *streptococcus* |
| *The above results were automatically deemed non-significant without need for further review. All other positive cultures were included for detailed clinical review to assess for true infection.* |

**S3: Data Collection Methods**

|  |  |  |
| --- | --- | --- |
| Variables of interest | Data source | Method of assessment |
| COVID-related infections | Laboratory information management system (LIMS); electronic patient records (including clinical notes, laboratory data and radiological images) | Medical review |
| Other infection variables (species, site) | As above | As above |
| Antimicrobial Days of Therapy | Electronic prescribing record | Automatic extraction and calculation |
| Other antimicrobial variables (class, number of courses) | As above | As above |
| Receipt of high-dose immunosuppression | Electronic prescribing record | Medical review |
| Demographics (age, gender) and observations (serial oxygen saturations, receipt of supplementary oxygen) | Electronic patient record | Automatic extraction |
| Clinical data (comorbidities, ICU admission, need for organ support, days of hospital stay, days of follow-up, in-hospital mortality) | Electronic patient record | Manual extraction |

**S4: Identification of true co- and secondary infections.**

Text

Description automatically generated

*\*other cultures (wound swabs, fluid/pus culture, line tip culture) were only recorded where positive so this may be an under-estimate*

*\*\* see Supplementary Table 3 (S3) for list*