**Supplementary Table 1. Definitions of varicella-related complications reported in the study population**

|  |  |  |
| --- | --- | --- |
| **Complication type** | **Broad complication (non-exhaustive)** | **Specific complication** |
| Skin disorders | Cellulitis, pyoderma, bacterial skin infection, and staphylococcal scalded skin syndrome | Bacterial skin infection (impetigo, cellulitis) |
| Neurological conditions | Meningitis, encephalitis, meningoencephalitis, cerebellar ataxia, syncope, cerebral vasculitis/infarct, cerebritis, and febrile convulsions | Meningitis, encephalitis, cerebellar ataxia, cerebritis, and febrile convulsions |
| Upper and lower respiratory tract conditions | Acute Respiratory Distress Syndrome (ARDS), pneumonia, and bronchitis/bronchiolitis | Pneumonia and bronchitis/bronchiolitis |
| Ear, nose and throat complications | Otitis media, tonsilitis, pharyngitis, and sinusitis | Otitis media and tonsilitis |
| Systemic bacterial infections | Sepsis, necrotizing fasciitis, and bacterial/septic arthritis | Sepsis |
| Hematological disorders | Thrombocytopenia, anemia, and disseminated purpura | - |
| Disorders of the musculoskeletal system | Osteomyelitis, fasciitis, and myositis | - |
| Ophthalmic disorders | Keratitis, conjunctivitis, and keratoconjunctivitis | - |
| Gastrointestinal disorders | Gastroenteritis, enteritis, dehydration, and anorexia | Gastroenteritis |
| Other disorders | ‘Other’ varicella complications as coded in ICD-10, e.g., varicella encephalitis, and lymphadenitis | ‘Other’ varicella complications as coded in ICD-10, e.g., varicella encephalitis |

References: [[8](#_ENREF_8), [20-34](#_ENREF_20)].

ICD 10, international classification of disease 10th edition.

**Supplementary Table 2. Systemic antibiotic use by complication status, time to first prescription (median [IQR] days), prescription duration (median [IQR] days)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Overall**  **(n=114,578)** | **Any varicella-related complication recorded**  **(n=8,814)** | **No complication recorded**  **(n=105,764)** | **Specific complication recorded**  **(n=5,567)** | **No specific complication recorded**  **(n=109,011)** |
| **Systemic antibiotic use, n (%)** | 22,517 (19.7) | 4,352 (49.5) | 18,165 (17.2) | 3,334 (59.9) | 19,183 (17.6) |
| **Amoxicillin, n (%)** | 10,504 (46.6) | 2,376 (54.6) | 8,128 (44.7) | 1,904 (57.1) | 8,600 (44.8) |
| Time to first prescription | 36 (12, 62) | 37 (16, 62) | 36 (11, 62) | 37 (16, 62) | 36 (11, 62) |
| Prescription duration | 7 (6, 7) | 7 (6, 7) | 7 (6, 7) | 7 (6, 7) | 7 (6, 7) |
| **Flucloxacillin, n (%)** | 5,826 (25.9) | 841 (19.3) | 4,985 (27.4) | 593 (17.8) | 5,233 (27.3) |
| Time to first prescription | 0 (0, 14) | 4 (0, 35) | 0 (0, 9) | 6 (0, 36) | 0 (0,11) |
| Prescription duration | 7 (5, 7) | 7 (5, 7) | 7 (5, 7) | 7 (5, 7) | 7 (5, 7) |
| **Phenoxymethylpenicillin, n (%)** | 2,808 (12.5) | 858 (19.7) | 1,950 (10.7) | 673 (20.2) | 2,135 (11.1) |
| Time to first prescription | 40 (15, 66) | 43 (20, 69) | 38 (13, 65) | 42 (20, 68) | 39 (14, 65) |
| Prescription duration | 10 (7, 10) | 10 (7, 10) | 10 (7, 10) | 10 (7, 10) | 10 (7, 10) |
| **Erythromycin, n (%)** | 2,358 (1.5) | 446 (10.2) | 1,912 (10.5) | 336 (10.1) | 2,022 (10.5) |
| Time to first prescription | 15 (0, 51) | 34 (6, 61) | 12 (0, 48) | 33 (8, 60.5) | 13 (0, 49) |
| Prescription duration | 7 (5, 7) | 7 (5, 7) | 7 (5, 7) | 7 (5, 7) | 7 (5, 7) |
| **Clarithromycin, n (%)** | 1,573 (7.0) | 302 (6.9) | 1,271 (7.0) | 221 (6.6) | 1,352 (7.0) |
| Time to first prescription | 20 (0, 53) | 33 (8, 58) | 15 (0, 51) | 35 (7, 58) | 16 (0, 51) |
| Prescription duration | 28 (7, 28) | 28 (7, 28) | 28 (7, 28) | 28 (7, 28) | 28 (7, 28) |
| **Co-amoxiclav, n (%)** | 1,172 (5.2) | 223 (5.1) | 949 (5.2) | 168 (5.0) | 1,004 (5.2) |
| Time to first prescription | 12 (0, 46) | 22 (4, 51) | 8 (0, 45) | 21.5 (4, 54.5) | 9 (0, 45) |
| Prescription duration | 7 (7, 7) | 7 (7, 7) | 7 (7, 7) | 7 (7, 7) | 7 (7, 7) |
| **Azithromycin, n (%)** | 200 (0.9) | 29 (0.7) | 171 (0.9) | 21 (0.6) | 179 (0.9) |
| Time to first prescription | 28 (10, 55) | 29 (23, 55) | 27 (10, 50) | 31 (23, 55) | 27 (10, 50) |
| Prescription duration | 28 (6, 28) | 28 (5, 28) | 28 (6.5, 28) | 28 (3, 28) | 28 (10, 28) |

IQR, interquartile range.