**Appendix A**

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| --- | --- |
|  |  |
| (**a**) | (**b**) |
|  |  |
| **(c)** | **(d)** |

**Figure S1.** The distribution of white blood cells and hematocrit percentages with respect to the degree of viremia. (**a**) Lymphocytes vs. viremia, (**b**) neutrophils vs. viremia, (**c**) atypical lymphocytes vs. viremia, and (**d**) hematocrit vs. viremia.

|  |  |
| --- | --- |
|  |  |
| (**a**) | (**b**) |

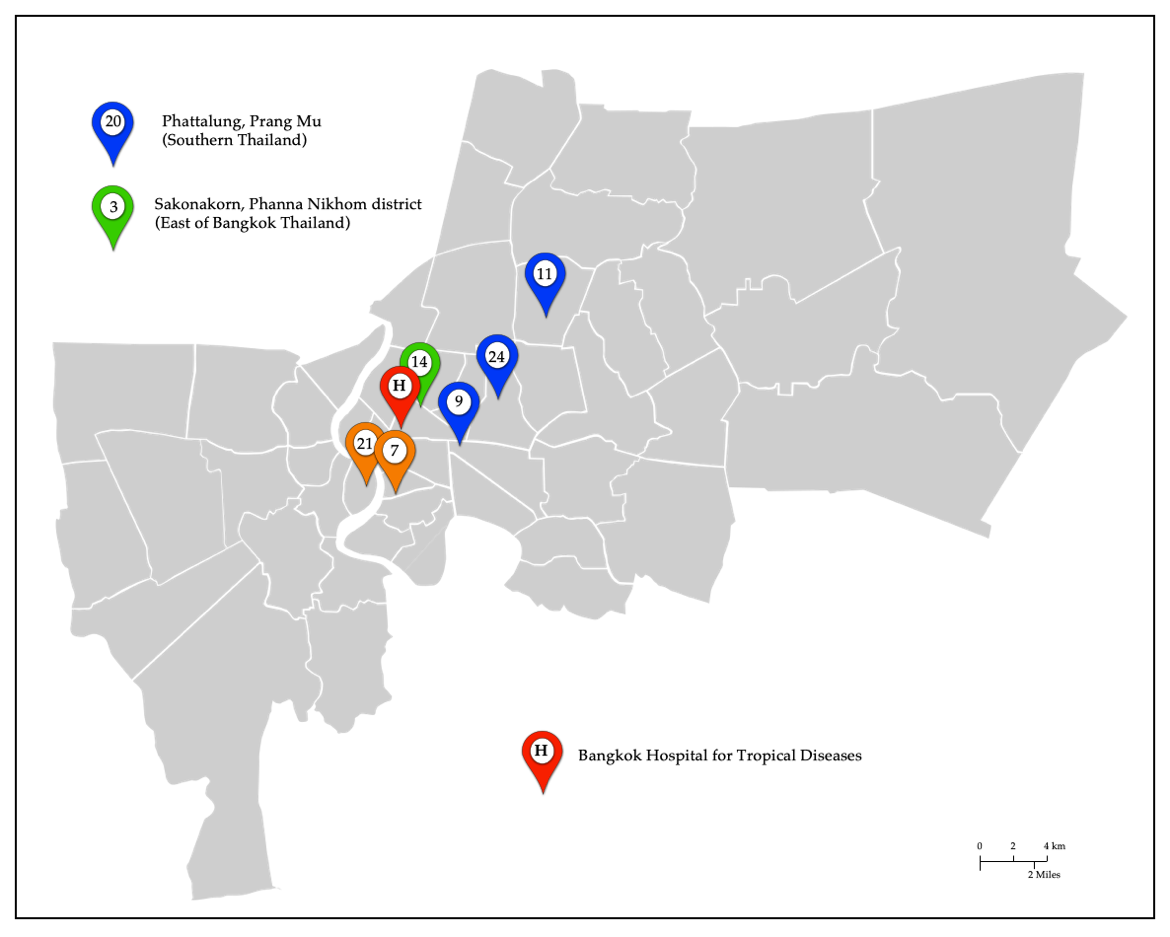
**Figure S2.** Correlation analysis of temperature against cycle threshold and day of illness. (**a**) Body temperature vs. cycle threshold, (**b**) body temperature vs. day of illness.

|  |  |
| --- | --- |
|  |  |
| (**a**) | (**b**) |
|  |  |
| **(c)** | **(d)** |

**Figure S3.** Correlation analysis of leukocytes with other blood cell indices. (**a**) Leukocytes vs. neutrophils, (**b**) leukocytes vs. lymphocytes, (**c**) leukocytes vs. monocytes, and (**d**) leukocytes vs. platelets.

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| --- | --- |
|  |  |
| (**a**) | (**b**) |
|  |  |
| **(c)** | (**d**) |
|  |  |
| **(e)** |  |

**Figure S4.** Correlation analysis of cycle threshold with blood cell indices. (**a**) Cycle threshold vs. neutrophils, (**b**) cycle threshold vs. atypical lymphocytes, (**c**) cycle threshold vs. lymphocytes, (**d**) cycle threshold vs. hemoglobin, and (**e**) cycle threshold vs. hematocrit.



**Figure S5.** Distribution of identified clusters of closely related strains of chikungunya virus within Bangkok.

**Table S1.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Demographic and clinical data** | **Female=14** | **Male=12** | p value |
| Age, years | 48.5 (31.5-58.7) | 45 (37.5-50.7) | 0.52 |
| Thai national | 13 (93) | 12 (92) | 0.91 |
| Foreigner | 1 (7.1) | 1 (8.3) |
| Comorbidity | 1 (7.1) | 2 (17%) | 0.44 |
| Day of presentation, days | 2 (2-3) | 3 (2-3) | 0.38 |
| Viral load, copies/mL | 2.0×105 (1.5×104 – 5.6×106) | 4.3×104 (443 – 3.7×105) | 0.15 |
| Temperature, °C | 38 (38.39) | 38 (37-39) | 0.76 |
| Fever | 12 (86) | 8 (67) | 0.25 |
| Arthralgia | 14 (100) | 10 (83) | 0.11 |
| Arthritis | 7 (50) | 5 (42) | 0.67 |
| Myalgia | 8 (57) | 8 (67) | 0.61 |
| Rash | 5 (35) | 7 (58) | 0.24 |
| Pruritus | 3 (21) | 4 (33) | 0.49 |
| Headache | 3 (21) | 1 (8) | 0.35 |
| Conjunctivitis | 2 (14) | 1 (8) | 0.63 |
| Diarrhea | 0 | 2 (17) | 0.11 |
| Leukocytes, 103/µL | 3.8 (3.1-5.3) | 4.9 (4.2-6.9) | 0.09 |
| Lymphocytes, % | 14.3 (9.5-22.1) | 19.5 (15-27) | 0.16 |
| Neutrophils, % | 75 (52.5-82.5) | 67 (54.5-71.75 | 0.14 |
| Eosinophils, % | 0.8 (0-1.7) | 0 (0-1.7) | 0.49 |
| Basophils, % | 0 (0-0.1) | 0 (0-0.9) | 0.23 |
| Monocytes, % | 3 (2-5) | 3 (2-6.2) | 0.79 |
| Atypical lymphocytes, % | 2.5 (0-4.5) | 3.5 (1.5-8.5) | 0.19 |
| Bands, % | 0.7 (5.5-12) | 2.5 (0.2-8) | 0.73 |
| Hemoglobin, % | 13.3 (12.15-13.8) | 14.5 (13.6-15.2) | 0.01 |
| Hematocrit, % | 40.5 (38.4-42.6) | 44.3 (41.0-46.0) | 0.01 |
| Platelets, 103/µL | 209 (132-254) | 175 (149-215) | 0.53 |

**Table S2.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Strain** | **Collection date** | **Sex** | **Age (years)** | **Ct** | **Viral load (copies/mL)** | | **Accession No.** |
| THBKK19-01 | October 2019 | F | 40 | 26.76 | 4.73E+03 | | LC598202 |
| THBKK19-02 | October 2019 | M | 50 | 36.87 | 9.99E+00 | Undetermined | |
| THBKK19-03 | October 2019 | M | 43 | 28.69 | 1.31E+03 | | LC598203 |
| THBKK19-04 | October 2019 | F | 24 | 19.79 | 2.66E+05 | | LC580256b |
| THBKK19-05 | October 2019 | M | 44 | 38.08 | 4.86E+00 | | Undetermined |
| THBKK19-06 | October 2019 | M | 55 | 20.38 | 1.87E+05 | | LC580257 b |
| THBKK19-07 | October 2019 | F | 61 | 29.47 | 8.24E+02 | | LC598204 |
| THBKK19-08 | October 2019 | F | 49 | 19.43 | 3.29E+05 | | LC580258 b |
| THBKK19-09 | October 2019 | M | 17 | 26.54 | 4.73E+03 | | LC580259 b |
| THBKK19-10 | October 2019 | M | 37 | 32.28 | 1.54E+02 | | Undetermined |
| THBKK19-11 | October 2019 | M | 28 | 21.8 | 8.00E+04 | | LC580260 b |
| THBKK19-12 | October 2019 | F | 58 | 25.91 | 6.90E+03 | | LC580261 b |
| THBKK19-13 | October 2019 | M | 39 | 20.36 | 1.89E+05 | | LC580262 b |
| THBKK19-14 | October 2019 | F | 64 | 18.06 | 7.48E+05 | | LC580263 b |
| THBKK19-15 | October 2019 | F | 32 | 20.77 | 1.48E+05 | | LC580264 b |
| THBKK19-16 | October 2019 | M | 55 | 25.87 | 7.08E+03 | | LC580265 b |
| THBKK19-17 | October 2019 | F | 61 | 20.08 | 1.55E+05 | | LC580266 b |
| THBKK19-18 | October 2019 | F | 50 | 29.97 | 6.14E+02 | | LC598205 |
| THBKK19-19 | October 2019 | F | 67 | 18.08 | 7.39E+05 | | LC580267 b |
| THBKK19-20 | October 2019 | M | 46 | 18.97 | 4.35E+05 | | LC580268 b |
| THBKK19-21 | October 2019 | F | 39 | 17.39 | 1.87E+06 | | LC580269 b |
| THBKK19-22 | October 2019 | F | 25 | 18.23 | 5.03E+05 | | LC598206 |
| THBKK19-23 | October 2019 | M | 48 | 17.9 | 6.21E+05 | | LC598207 |
| THBKK19-24 | October 2019 | F | 30 | 23.42 | 1.87E+04 | | LC598208 |
| THBKK19-25 | October 2019 | F | 55 | 18.02 | 5.75E+05 | | LC598209 |
| THBKK19-26 | October 2019 | F | 48 | 19.31 | 2.53E+05 | | LC598210 |

**Table S3.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Position** | **Structural polyprotein** | | | | | | |
| 73 | 530 | 546 | 589 | 1020 | 1035 | 1126 |
| **capsid** | **E2** | | | **E1** | | |
| 73 | 205 | 221 | 264 | 211 | 226 | 317 |
| Amino acid residue | R | S | K | A | E | A | V |

**Table S4.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Day 2 of illness** | **Chikungunya=7** | **Dengue=7** | p value |
| Leukocytes, 103/µL | 5.6 (3.8-8) | 3.5 (2.3-5.4) | 0.08 |
| Lymphocytes, % | 10 (8.3-15) | 15 (13-16.9) | 0.07 |
| Neutrophils, % | 82 (72-84) | 69 (63.9-80) | 0.01 |
| Atypical Lymphocytes, % | 1 (0-6) | 2 (0-1) | 0.72 |
| Hemoglobin, % | 13 (12.2-14) | 15.4 (13.8-15.6) | 0.04 |
| Hematocrit, % | 39 (37.5-43.5) | 44.5 (40.4-45.3) | 0.14 |
| Platelets, 103/µL | 178 (133-294) | 154 (68-212) | 0.14 |
| **Day 3 of illness** | **Chikungunya=15** | **Dengue=22** |  |
| Leukocytes, 103/µL | 4.1 (3.2-4.9) | 3 (2.23-4.2) | 0.06 |
| Lymphocytes, % | 16 (14-27) | 22 (15.75-30.75) | 0.22 |
| Neutrophils, % | 67 (53-76) | 55.5 (43.7-68) | 0.14 |
| Atypical Lymphocytes, % | 4 (2-6) | 7 (5-13.7) | 0.01 |
| Hemoglobin, % | 13.8 (13.4-14.9) | 13.9 (12.3-15.0) | 0.69 |
| Hematocrit, % | 42.1 (39.9-44.6) | 41.1 (37.4-43.5) | 0.24 |
| Platelets, 103/µL | 179 (131-220) | 87 (62.2-127) | 0.00 |
| **Day 4 of illness** | **Chikungunya=3** | **Dengue=43** |  |
| Leukocytes, 103/µL | 4.9 (3.6) | 2.9 (2.3-4.2) | 0.07 |
| Lymphocytes, % | 27 (21) | 25.5 (19-31.2) | 0.68 |
| Neutrophils, % | 66 (46) | 52.5 (34.5-64.1) | 0.18 |
| Atypical Lymphocytes, % | 3 (0) | 11 (8-24) | 0.01 |
| Hemoglobin, % | 14.2 (13.5) | 15 (13.3-16) | 0.53 |
| Hematocrit, % | 44.6 (41.2) | 44 (40.3-47.1) | 0.96 |
| Platelets, 103/µL | 226 (171) | 62.5 (30-87.2) | 0.00 |

1 The data are presented as medians and IQR.