| **Supplementary table 1:** Characteristic of children with ≥5 observed recurrent intussusception episodes1 | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Child | District-Province/City | Sex2 | Episode | Age (weeks) | Onset date | Admission date | Symptoms3 | Ultrasound description4 | Discharge date |
| 1 | Kinh Mon-Hai Duong | M | 1 | 47 | 6-Oct-14 | 6-Oct-14 | Vomiting, bloody stool, fever | Ileo-colic | 7-Oct-14 |
| 2 | 53 | 26-Oct-14 | 27-Oct-14 | Vomiting | Ileo-colic, Mass size: 27x32x45mm | 27-Oct-14 |
| 3 | 55 | 1-Dec-14 | 1-Dec-14 | Vomiting | Ileo-colic | 3-Dec-14 |
| 4 | 62 | 20-Jan-15 | 20-Jan-15 | Vomiting | Ileo-colic, 32x35mm | 22-Jan-15 |
| 5 | 70 | 16-Mar-15 | 16-Mar-15 | None reported | Ileo-colic, 34x36mm | 17-Mar-15 |
| 6 | 82 | 5-Jun-15 | 5-Jun-15 | None reported | Mesenteric lymphadenitis | 6-Jun-15 |
| 7 | 89 | 29-Jul-15 | 29-Jul-15 | None reported | Ileo-colic | 31-Jul-15 |
| 2 | Phu Vang-T.T. Hue | F | 1 | 60 | 24-Apr-13 | 25-Apr-13 | Vomiting | Ileo-colic, mesenteric lymphadenitis inside the IS mass, the mass size was 28mmx32mm, located in the right upper quadrant | 26-Apr-13 |
| 2 | 72 | 1-Aug-13 | 1-Aug-13 | Vomiting, fever | Ileo-colic, mesenteric inside the mass | 2-Aug-13 |
| 3 | 85 | 21-Oct-13 | 22-Oct-13 | Vomiting | Ileo-colic, mesenteric inside the mass | 23-Oct-13 |
| 4 | 94 | 3-Jan-14 | 4-Jan-14 | Vomiting | Ileo-colic, mesenteric inside the mass | 7-Jan-14 |
| 5 | 102 | 16-Mar-14 | 16-Mar-14 | Vomiting | Ileo-colic, mesenteric inside the mass | 21-Mar-14 |
| 3 | Thuy Nguyen-Hai Phong | M | 1 | 39 | 3-Sep-15 | 3-Sep-15 | Vomiting | Ileo-colic, mesenteric lymphadenitis | 4-Sep-15 |
| 2 | 43 | 2-Oct-15 | 2-Oct-15 | None reported | Ileo-colic | 4-Oct-15 |
| 3 | 49 | 10-Nov-15 | 10-Nov-15 | None reported | Ileo-colic, mass size 27x28mm, mesenteric inside the mass | 11-Nov-15 |
| 4 | 62 | 14-Feb-16 | 14-Feb-16 | None reported | Ileo-colic | 16-Feb-16 |
| 5 | 67 | 16-Mar-16 | 16-Mar-16 | Vomiting | Ileo-colic , Mesenteric lymphadenitis less than 10mm in size | 21-Mar-16 |
| 6 | 77 | 24-May-16 | 24-May-16 | Vomiting | Ileo-colic Mesenteric lymphadenitis less than 10mm in size | 26-May-16 |
| 4 | Huong Tra-T.T. Hue | M | 1 | 25 | 11-Aug-13 | 11-Aug-13 | None reported | Ileo-colic, mesenteric lymphadenitis, Right upper quadrant has the intraabdominal mass image, bowel loops image | 13-Aug-13 |
| 2 | 30 | 10-Sep-13 | 11-Sep-13 | None reported | Ileo-colic, mesenteric lymphadenitis | 13-Sep-13 |
| 3 | 55 | 16-Mar-14 | 16-Mar-14 | fever | Ileo-colic, mesenteric lymphadenitis | 17-Mar-14 |
| 4 | 68 | 8-Jul-14 | 8-Jul-14 | None reported | Ileo-colic, appendix in the IS mass | 10-Jul-14 |
| 5 | 103 | 8-Feb-15 | 8-Feb-15 | Vomiting | Ileo-colic, mesenteric lymphadenitis | 9-Feb-15 |
| 5 | Van Don-Quang Ninh | F | 1 | 39 | 1-Aug-14 | 1-Aug-14 | Vomiting, bloody stool | Ileo-colic | 4-Aug-14 |
| 2 | 46 | 22-Sep-14 | 22-Sep-14 | Vomiting | Ileo-colic | 23-Sep-14 |
| 3 | 48 | 8-Oct-14 | 8-Oct-14 | Vomiting | Ileo-colic | 10-Oct-14 |
| 4 | 50 | 23-Oct-14 | 23-Oct-14 | Vomiting | Ileo-colic | 24-Oct-14 |
| 5 | 94 | 27-Aug-15 | 27-Aug-15 | None reported | Ileo-colic, 27.3x28.2mm | 28-Aug-15 |
| 6 | An Lao-Hai Phong | F | 1 | 37 | 15-Apr-15 | 16-Apr-15 | Bloody stool | Ileo-colic | 18-Apr-15 |
| 2 | 42 | 18-May-15 | 18-May-15 | Vomiting | Ileo-colic | 20-May-15 |
| 3 | 43 | 28-May-15 | 28-May-15 | Vomiting | Ileo-colic, mesenteric lymphadenitis, mass size 29x30mm | 30-May-15 |
| 4 | 58 | 8-Sep-15 | 8-Sep-15 | Vomiting | Ileo-colic, mass size 25x26mm | 9-Sep-15 |
| 5 | 65 | 30-Oct-15 | 30-Oct-15 | None reported | Ileo-colic, mesenteric lymphadenitis inside the IS mass less than 10mm | 1-Nov-15 |
| 7 | Tien Lang-Hai Phong | M | 1 | 27 | 17-Jul-13 | 17-Jul-13 | Vomiting | Ileo-colic, 26x36x42mm | 19-Jul-13 |
| 2 | 29 | 1-Aug-13 | 2-Aug-13 | Vomiting | Ileo-colic, 28x31mm | 3-Aug-13 |
| 3 | 46 | 1-Dec-13 | 1-Dec-13 | Vomiting | Ileo-colic, 32x37mm, Mesenteric lymphadenitis less than 10mm | 2-Dec-13 |
| 4 | 50 | 28-Dec-13 | 28-Dec-13 | Vomiting | Ileo-colic, 25x43x47mm | 30-Dec-13 |
| 5 | 55 | 19-Feb-14 | 20-Feb-14 | Vomiting | Ileo-colic | 21-Feb-14 |
| 8 | Vinh Bao-Hai Phong | M | 1 | 63 | 19-Nov-13 | 19-Nov-13 | Vomiting, bloody stool | Ileo-colic | 21-Nov-13 |
| 2 | 65 | 3-Dec-13 | 3-Dec-13 | Vomiting | Ileo-colic | 5-Dec-13 |
| 3 | 83 | 10-Apr-14 | 10-Apr-14 |  | Ileo-colic | 11-Apr-14 |
| 4 | 94 | 25-Jun-14 | 25-Jun-14 | Vomiting | Ileo-colic | 27-Jun-14 |
| 5 | 94 | 28-Jun-14 | 28-Jun-14 | Vomiting | Ileo-colic | 30-Jun-14 |
| 9 | Kien An-Hai Phong | M | 1 | 33 | 28-Apr-16 | 28-Apr-16 | Vomiting, fever | Ileo-colic | 29-Apr-16 |
| 2 | 35 | 21-May-16 | 21-May-16 | Vomiting, fever | Ileo-colic, mesenteric lymphadenitis less than 10 mm | 23-May-16 |
| 3 | 45 | 17-Jul-16 | 17-Jul-16 | Vomiting | Ileo-colic, mesenteric lymphadenitis | 18-Jul-16 |
| 4 | 47 | 2-Aug-16 | 2-Aug-16 | Vomiting | Ileo-colic | 2-Aug-16 |
| 5 | 55 | 6-Oct-16 | 6-Oct-16 | Vomiting, fever | Ileo-colic | 7-Oct-16 |
| 10 | Vinh Bao-Hai Phong | F | 1 | 22 | 31-Oct-15 | 1-Nov-15 | Vomiting, bloody stool, fever | Ileo-colic | 2-Nov-15 |
| 2 | 23 | 9-Nov-15 | 9-Nov-15 | Vomiting | Ileo-colic mass size 28x37mm, inside has mesenteric lymphadenitis less than 10mm | 12-Nov-15 |
| 3 | 26 | 27-Nov-15 | 28-Nov-15 | Vomiting | Ileo-colic | 30-Nov-15 |
| 4 | 46 | 20-Apr-16 | 20-Apr-16 | Vomiting | Ileo-colic | 22-Apr-16 |
| 5 | 50 | 16-May-16 | 16-May-16 | Vomiting | Ileo-colic | 17-May-16 |
| 11 | Kien An-Hai Phong | F | 1 | 27 | 18-May-16 | 19-May-16 | Vomiting, bloody stool | Ileo-colic | 23-May-16 |
| 2 | 38 | 3-Aug-16 | 3-Aug-16 | Vomiting | Ileo-colic | 4-Aug-16 |
| 3 | 43 | 12-Sep-16 | 12-Sep-16 | Vomiting | Ileo-colic | 16-Sep-16 |
| 4 | 47 | 10-Oct-16 | 10-Oct-16 | Vomiting | Ileo-colic | 11-Oct-16 |
| 5 | 64 | 5-Feb-17 | 5-Feb-17 | Vomiting | Ileo-colic | 6-Feb-17 |
| 12 | Phong Hai – T.T.Hue | M | 1 | 37 | 17-Oct-14 | 17-Oct-14 | Bloody stool, fever 38 | Ileo-colic, mesenteric lymphadenitis inside mass | 20-Oct-14 |
| 2 | 42 | 21-Nov-14 | 21-Nov-14 | Vomiting | Ileo-colic | 24-Nov-14 |
| 3 | 48 | 6-Jan-15 | 6-Jan-15 | Vomiting, fever | Ileo-colic, mesenteric lymphadenitis | 8-Jan-15 |
| 4 | 61 | 10-Apr-15 | 10-Apr-15 | Vomiting | Ileo-colic; Resolved air enema then by surgery without resection, appendix removed by convenience | 14-Apr-15 |
| 5 | 89 | 22-Oct-15 | 22-Oct-15 | Vomiting | Ileo-colic | 26-Oct-15 |
| 1Caregivers for 3 other children reported 4 previous episodes managed at facilities not included in surveillance and so their earlier medical records were unavailable. One child was managed with surgery and resection in their visit to the surveillance hospital. | | | | | | | | | |
| 2M=male; F=female | | | | | | | | | |
| 3Reported symptoms included vomiting, fever, bloody stool, constipation, diarrhea | | | | | | | | | |
| 4All episodes were managed with enema unless otherwise noted | | | | | | | | | |