**Supplemental Table 1. Comparison between patients with** **the peak total bilirubin level after the last day of phototherapy and those with the peak total bilirubin level before the last day of phototherapy**

|  |  |  |  |
| --- | --- | --- | --- |
|  | The peak TB level after the last day of phototherapyN = 30 | The peak TB level before the last day of phototherapyN = 31 | P value |
| Sex (M:F) | 18:12 | 20:11 | 0.80 |
| Gestational age (wks)\* | 25.5 (22-30) | 26.0 (22-33) | 0.39 |
| Birthweight (g)\* | 788 (414-1941) | 864 (498-2374) | 0.18 |
| The last day of phototherapy\* | 6 (3-23) | 22 (5-58) | < 0.001 |
| Peak TB levels (mg/dL)\* | 10.6 (7.0-19.3) | 13.9 (4.3-22.2) | 0.029 |
| The day of peak TB levels\* | 19.5 (4-49) | 20 (3-41) | 0.76 |
| Peak DB levels (mg/dL)\* | 1.2 (0.3-7.73)N = 23 | 1.7 (0.8-9.0)N = 21 | 0.17 |
| The day of peak DB levels\* | 33 (2-55)N = 23 | 25 (1-55)N = 21 | 0.32 |
| Peak DB ≥ 2 mg/dL | 8/23 (35%) | 8/19 (42%) | 0.75 |
| Peak DB ≥ 4 mg/dL | 2/23 (9%) | 2/19 (11%) | > 0.99 |

TB: total bilirubin, DB: direct bilirubin

\*: Values are shown as median (range).

We could compare clinical variables from 61 patients with sufficient information. Numerical and categorical values were analyzed by Mann-Whitney U test and Fisher exact probability test, respectively.

**Supplemental Table 2. The existing treatment criteria of neonatal jaundice proposed in Japan**

**The treatment criteria of neonatal jaundice proposed by Murata and Imura**



TB: total bilirubin

1: Phototherapy should be started when serum TB level is above the reference line according to the age after birth and birth weight.

2: Phototherapy according to the one-rank lower reference line should be considered, when there is at least one of the risk factors for kernicterus

1. Perinatal asphyxia (5 minute Apgar score < 3)

2. Respiratory distress (PaO2 ≤ 40 mmHg lasting for 2 hrs or longer)

3. Acidosis (pH ≤ 7.15)

4. Hypothermia (rectal temperature < 35°C lasting for 1 hr or longer)

5. Hypoproteinemia (serum total protein ≤ 4.0g/dL or serum albumin ≤ 2.5g/dL)

6. Hypoglycemia

7. Hemolysis

8. Central nervous system disorders including sepsis

3: Criteria of discontinuation; serum TB value of 2~3 mg/dL below the reference line according to the age.

Exchange transfusion is not described in this treatment criteria.

**The treatment criteria of neonatal jaundice proposed by Nakamura**

|  |  |  |
| --- | --- | --- |
| Birth weight | TB (mg/dL) | UB (µg/dL) |
| < 24 hrs | < 48 hrs | < 72 hrs | < 96 hrs | < 120 hrs | ≥ 120 hrs | At any age |
| < 1,000 g | 5/8 | 6/10 | 6/12 | 8/12 | 8/15 | 10/15 | 0.3/0.8 |
| < 1,500 g | 6/10 | 8/12 | 8/15 | 10/15 | 10/18 | 12/18 |
| < 2,500 g | 8/10 | 10/15 | 12/18 | 15/20 | 15/20 | 15/20 | 0.6/1.0 |
| ≥ 2,500 g | 10/12 | 12/18 | 15/20 | 18/22 | 18/25 | 18/25 |

Values are shown as an indication of phototherapy/exchange transfusion.

Phototherapy or exchange transfusion is indicated, when the TB or UB value exceeds the reference value.

TB; total bilirubin, UB: unbound bilirubin

**References**

1. Imura S. Phototherapy of neonatal jaundice: its indication and prevention of adverse effects. Nihon Rinsho 1985; 43(8): 1741-1748. in Japanese.

2. Morioka I. Hyperbilirubinemia in preterm infants in Japan: New treatment criteria. Pediatr Int. 2018; 60(8): 684-690.