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| **Supplemental Table 1:** Characteristics of included studies. | | | | | | | | | | | | | | |  |
|  |  | **Hypothermia Group** | | | | | | **Normothermia Group** | | |  |  |  |  |  |
| Study | Type of Study | N | | Mean Age±SD (Years) | | Mean GCS±SD | | N | Mean Age±SD (Years) | Mean GCS±SD | Time Enrolled Within | Target Temperature (℃) | Duration of Cooling | Rate of Rewarming | Follow Up (Months) |
| **Adult Trials** | | | | | | | | | | | | | | | |
| Aibiki et al., 2000 (14) | RCT | 15 | | 34±6 | | 5.7±0.4 | | 11 | 38 ±8 | 5.7±0.3 | 8h | 32-33 | 72-96h | 1℃/24h | 6 |
| Andrews et al., 2015 (15) | RCT | 195 | | 37.4±15.4 | | NR | | 192 | 36.7±14.9 | NR | 10 days | 32-35 | >48h | 1℃/4h | 6 |
| Chen et al., 2001 (16) | Non-RCT | 30 | | 34.1 | | 4.6±2.3 | | 30 | 33.2 | 4.5±2.4 | 6h | 33-35 | 72h-10 days | NR | 3 to 6 |
| Clark et al., 1996 (17) | Non-RCT | 7 | | 27.9±8.9 | | 4±1.3 | | 8 | 39.8±15.6 | 5.8±1.4 | 6h | 32 | 24h | NR | 3 and 6 |
| Clifton et al., 1992 (18) | RCT | 5 | | NR | | 6.2±1.5 | | 5 | NR | 5.2±1.3 | 6h | 30-32 | 24h | 1℃/3h | 3 |
| Clifton et al., 1993 (19) | RCT | 24 | | NR | | NR | | 22 | NR | NR | 6h | 32-33 | 48h | 1℃/4h | 3 |
| Clifton et al., 2001 (20) | RCT | 199 | | 31±12 | | 5.6±1.3 | | 193 | 32±13 | 5.8±1.3 | 6h | 33 | 48h | 1℃/4h | 6 |
| Clifton et al., 2011 (21) | RCT | 52 | | 26±9 | | NR | | 45 | 31±11 | NR | 2.5h | 33 | 48h | 1℃/4h | 6 |
| Gal et al., 2002 (22) | Non-RCT | 15 | | 35±13 | | 4.5 | | 15 | 39±14 | 4.3 | NR | 34 | 72h | NR | 6 |
| Harris et al., 2009 (23) | RCT | 12 | | 38.1±15 | | 3.9±1.7 | | 13 | 33.2±20 | 4.3±2.1 | 48h | 33 | 24h | 1℃/6h | 1 |
| Hashiguchi et al., 2003 (24) | Non-RCT | 9 | | 29.0±14.9 | | 5.4±1.7 | | 8 | 39.1±13.2 | 5.4±2 | NR | 34 | 48h | 1℃/24h | 6 |
| Hayashi et al., 2002 (25) | Non-RCT | 7 | | 23.4 | | 4 | | 6 | 28 | 4.8 | 3h | 32-34 | 48h | 1℃/24h | 6 |
| Hayashi et al., 2005 (26) | Non-RCT | Mild =10 Very mild=10 | | Mild= 27.4±10.1 Very Mild= 30.4±13.7 | | Mild= 4.5±1.4 Very Mild= 5.5±1.4 | | 21 | 33.6±16.6 | 4.7±1.3 | NR | Mild= 32-34 Very Mild= 35-36 | 72h-16 days | 1℃/24h | 6 |
| Hirayama et al., 1994 (27) | RCT | 12 | | NR | | NR | | 10 | NR | NR | 2h | 32-33 | 48h | 1℃/4h | 3 |
| Idris et al., 2014 (28) | RCT | Mild=10  Deep=9 | | Mild=28.9 Deep=26.7 | | Median= 7 | | 13 | 45.5 | Median= 6 | NR | Mild=30-36  Deep=20-29 | 24-48h | NR | 6 |
| Ishikawa et al., 2000 (29) | Non-RCT | 41 | | 37.4±3.2 | | 6.3±0.2 | | 50 | NR*a* | NR*a* | NR | 33.5-34.5 | >24h | NR | NR |
| Jiang et al., 1998 (30) | Non-RCT | 23 | | 43.1 | | NR | | 24 | 40.4 | NR | NR | 33-35 | 6 days | NR | NR |
| Jiang et al., 2000 (31) | RCT | 43 | | 42.2 | | 5.0±1.5 | | 44 | 40.6 | 5.1±1.4 | 6h | 33-35 | 3-14 days | 1℃/h | 12 |
| Lee at al., 2010 (32) | RCT | 29 | | 41.4±16.6 | | 6.4±1.2 | | 16 | 43.5±16.4 | 6.4±1.3 | 6h | 33-35 | ICP Dependent | NR | 6 |
| Liu et al., 1999 (33) | Non-RCT | 28 | | NR | | NR | | 31 | NR | NR | NR | 34-34.5 | 72h | NR | 2.5 |
| Liu et al., 2006 (34) | RCT | SBC=22  MSH=21 | | SBC=  40.2  MSH=  39.6 | | NR | | 23 | 42.3 | NR | 24h | 33-35 | 72h | Natural | 24 |
| Maekawa et al., 2015 (35) | RCT | 98 | | 39±19 | | 5.8±1.4 | | 50 | 39±18 | 5.9±1.3 | 2h | 32-34 | ≥72h | <1℃/24h | 6 |
| Marion et al., 1993 (36) | Non-RCT | 20 | | 32.1 | | 4.7±1.45 | | 20 | 31.9 | 5.3±1.6 | 6h | 32-33 | 24h | Natural Over 12h | 3 |
| Marion et al., 1997 (37) | RCT | 40 | | 31±12 | | NR | | 42 | 35±15 | NR | 6h | 32-33 | 24h | 1℃/h | 3, 6 and 12 |
| Meissner et al., 2003 (38) | RCT | 11 | | Median= 30 | | Median= 6 | | 13 | Median=48 | Median= 5 | 8h | 32-33 | 24-48h | NR | NR |
| Nara et al., 1997 (39) | Non-RCT | 9 | | 49±14 | | 4±2 | | 14 | NR*a* | NR*a* | NR | NR | NR | NR | 3 |
| Polderman et al., 2002 (40) | Non-RCT | 64 | | 39.2±24.2 | | 5.37±1.8 | | 72 | 34.2±29.6 | 5.9±2.1 | NR | 32-34 | >24h ICP Dependent | 1℃/12h | 6 |
| Qiu et al., 2005 (41) | RCT | 43 | | 40 | | NR | | 43 | 42.3 | NR | 24h | 33-35 | 72h-5 days | Natural | 24 |
| Qiu et al., 2007 (42) | RCT | 40 | | 41.3 | | NR | | 40 | 40.2 | NR | 6h | 33-35 | 96h | Natural Over 10-24h | 12 |
| Shiozaki et al., 1993 (43) | RCT | 16 | | 35.3±15.3 | | 5.3±1.9 | | 17 | 35.4±12.6 | 5.1±1.8 | 2h | 34 | 48h | NR | 6 |
| Shiozaki et al., 1999 (44) | RCT | 8 | | 31.4±12.7 | | 5.6±1.8 | | 8 | 40.3±23.1 | 5.4±2 | 2h | 34 | 48h | 1℃/24 | 6 |
| Shiozaki et al., 2001 (45) | RCT | 45 | | 35±20 | | 5.5±1.7 | | 46 | 42±17 | 5.1±1.9 | 2h | 34 | 48h | 1℃/24 | 3 |
| Smrcka et al., 2005 (46) | Non-RCT | 35 | | NR | | 4.6±1.3 | | 37 | NR | 4.3±1.2 | NR | 34 | 72h | Natural | 6 |
| Soukup et al., 2002 (47) | Non-RCT | 33 | | NR | | 6±2 | | 25 | NR | 4±2 | NR | 34-36 | >48h | NR | 3 |
| Suehiro et al., 2014 (48) | Non-RCT | 47 | | 41±24.3 | | 6.0±1.4 | | 129 | 53.6±22.6 | 6.2±1.3 | 48h | <35 | NR | NR | At discharge |
| Tokutomi et al., 2004 (49) | Non-RCT | 31 | | 40±18 | | 4.2±0.6 | | 33 | 46±19 | 4.3±0.6 | NR | 33 | 48-72h ICP Dependent | NR | 6 |
| Yamamoto et al., 2002 (50) | Non-RCT | 22 | | 40.5 | | 5.0±1.4 | | 17 | 53.9 | 4.8±1.6 | 3h | 33-35 | 36h-7 days | 1℃/24h | 3 |
| Yan et al., 2010 (51) | Non-RCT | 73 | | NR | | NR | | 75 | NR | NR | 10h | 32-34 | 72h-5 days | Natural | 1-7 years |
| Zhao et al., 2011 (52) | Non-RCT | 40 | | 36.9±14.8 | | NR | | 41 | 37.5±15.2 | NR | 6h | 33 | 72h | Natural | 3 |
| Zhi et al., 2003 (53) | RCT | 198 | | 43±17 | | 5.8±1.8 | | 198 | 42±19 | 5.9±1.7 | 24h | 32-35 | 1-7 days | 1℃/4h | 6 |
| Zhu et al., 2003 (54) | Non-RCT | 58 | | NR | | NR | | 58 | NR | NR | 6h | 35 | 1-7 days | NR | 6 |
|  | | | | | | | | | | | | | | | |
| **Paediatric Trials** | | | | | | | | | | | | | | | |
| Adelson et al., 2005 (55) | RCT | HYPO 1=23 HYPO2=14 | HYPO1=6.9±3.5  HYPO2=7.2±6.6 | | HYPO1=5.7±1.4  HYPO2=6.4±1.2 | | HYPO1=25  HYPO2=13 | | HYPO1= 6.9±3.8  HYPO2=5.6±5.2 | HYPO1=5.6±1.6  HYPO2=6.2±1.2 | 24h | 32-33 | 48h | 1℃/4h | 3 and 6 |
| Adelson et al., 2013 (56) | RCT | 39 | Median=9.7 | | Median=6 I | | 38 | | Median=12.5 | Median=6 | 6h | 32-33 | 48-72h ICP Dependent | 1℃/24h | 3 |
| Beca et al., 2015 (57) | RCT | 24 | Median= 11.0 | | Median=5.5 | | 26 | | Median=9.5 | Median= 4.5 | 6h | 32-33 | >72h | 1℃/6h | 12 |
| Biswas et al., 2002 (58) | RCT | 10 | 5.9±2.9 | | 4.7±1.9 | | 11 | | 6.5±3.7 | 5.6±1.8 | 6h | 32-34 | 48h | 1℃/h | 3, 6 and 12*b* |
| Bourdages et al., 2010 (59) | RCT | 7 | Median= 13.5 | | Median= 6 | | 9 | | Median=12.7 | Median=5 | 8h | 32-33 | 24h | 1℃/4h | NR |
| Hutchison et al., 2008 (60) | RCT | 108 | 9.8±4.9 | | Median= 5 | | 117 | | 10.2±4.8 | Median= 5 | 8h | 32.5 | 24h | 1℃/4h | 6 |
| Li et al., 2009 (61) | Non-RCT | 12 | NR | | 6.4±1.8 | | 10 | | NR | 6.5±1.7 | 8h | 34-35 | 72h | NR | NR |
| Salonia et al., 2010 (62) | RCT | 19 | 7.1±1.7 | | 7.0±2.4 | | 15 | | 6.6±4.4 | 8.1±3.7 | NR | 32-33 | 48h | 1℃/4h | 6 |

RCT = Randomised controlled trial

NR = Not reported in original study, at all or in usable format

GCS = Glasgow coma scale

SBC = Selective brain cooling

SD = Standard deviation

NR*a* = Data for mean±SD age and GCS not reported for a combined control group in the original study

3, 6 and 12*b* = Data for all patients available for 3 month follow up so this used in analysis