**Supplemental File**

**Table 1S.** Summary of case reports of DHTR. Presence or absence of detectable antibodies and indication for transfusion for each case is listed. Abbreviations: DHTR, Delayed Hemolytic Transfusion Reaction; Ab, antibody; NA, not available; NC, not characterized; VOC, vaso occlusive crisis; ACS, acute chest syndrome.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Publication**  **(year, author, reference)** | **Cases** | **Pre-DHTR Abs** | **Additional Abs in history** | **Post DHTR additional Abs** | **Indication for transfusion** | **Outcome** |
| 1984 , Brumbeld, 89 | 1 | none | none | E, K, Fya, Jkb, Cw, IH | pregnancy |  |
| 1985, Milner, 75 | 1  2  3  4  5  6  7  8  9  10 | none  K, M  NA  none  C,E, Fya  M, C, E  no  no  NA  none | none  none  NA  Jkb  NA  Lea, Leb  no  E, C, K, Jka  E, C, Fya, K, V, Jka  none | none  NA  C, E, S, Lea, Leb  Jkb  S  Fya, S, Jkb  auto antibodies  C, E, Jka  yes, NC  E | stomach surgery  cholecystectomy  cholecystectomy  gynaecologic surgery  ACS  VOC  anemia  pneumonia, anemia  cholecystectomy | Died  Died |
| 1985, Squires, 33 | 1 | none | none | Cob | pregnancy |  |
| 1988, Cox, 10 | 1 | none | NA | HrB, Fya, E | cholecystectomy |  |
|  | 2 | none | none | C, E | ACS |  |
|  | 3 | none | none | RH46 | fever, anemia |  |
| 1988, Bowen, 90 | 1 | S | none | E, Fya, Fy5 | abortion |  |
| 1989, Rao, 114 | 1 | yes, NC | none | none | cholecystectomy |  |
|  | 2 | E | none | C, M, Fya | ACS |  |
|  | 3 | E | none | Jka | anemia (parvovirus) |  |
| 1993, Thornton, 91 | 1 | NA | NA | C, E, Fya, Fyb | dental surgery |  |
| 1996, Syed, 92 | 1 | Fya | none | Jkb, M, s | atrial septal defect |  |
|  | 2 | C, K, Fya, S | E , Jkb | Fy3, Fyb | ACS, pregnancy |  |
|  | 3 | none | none | C, E | malleolar ulcer |  |
|  | 4 | E, Fyb, S, V, auto | none | Yes, NC | priapism |  |
| 1996, Larson, 95 | 1 | E, K, Fya, Lea, Bg | none | Goa | cerebral vasculopathy |  |
| 1997, Petz, 115 | 1 | K, Fya | NA | C, Jkb, Jsa, M | painful crisis, infection |  |
|  | 2 | E, C, K, S | NA | Fya, Jkb | painful crisis |  |
|  | 3 | E, Cw, S, Fya, Fyb | auto-C | none | painful crisis |  |
|  | 4 | none | NA | Lea, E, M, S | abdominal pain, |  |
|  | 5 | none | NA | C, E, Jkb, Fya, Fyb | pneumonia bone pain |  |
| 1997, King, 97 | 1 | Fya | none | E, S | orthopaedic surgery |  |
|  | 2 | none | none | E, Jka | painful crisis |  |
|  | 3 | none | none | none | orthopaedic surgery |  |
|  | 4 | C, M | none | Fya | cholecystectomy |  |
|  | 5 | C, M, S, Fya, Jkb, K | none | none | orthopaedic surgery |  |
| 1997, Anderson, 32 | 1 | E, M, Fya, Jkb | None | Jsa | parathyroidectomy |  |
| 1999, Kalyanaraman, 77 | 1 | E | none | s | VOC |  |
| 1999, Fabron, 76 | 1 | NA | NA | c | cholecystectomy |  |
| 2001, Win, 74 | 1 | none | none | none | ACS , delivery |  |
|  | 2 | auto-antibodies | none | panagglutination | asthenia, anemia |  |
| 2002, Noizat-Pirenne, 94 | 1 | C, Fya, S | none | HrS | pregnancy | died |
|  | 1 | none | none | HrS | VOC | died |
| 2002 Aygun,, 64 | 1 | C, E, Fyb, Jkb | none (or in H) | autoantibody | NA |  |
|  | 2 | C, E, Fya, Jkb, K, s, V, Jsb | none (or in H) | none | NA | died |
|  | 3 | none | none | E, cold auto-i | NA |  |
|  | 4 | none | none | E, Jkb, S, C | NA |  |
|  | 5 | none | none | K, E , autoantibody | NA |  |
| 2003, Talano, 116 | 1 | none | NA | Warm autoantibodies | NA |  |
|  | 2 | C, S, Jkb | NA | Fyb | NA |  |
|  | 3 | none | NA | E, Lea | NA |  |
|  | 4 | none | NA | E | NA |  |
|  | 5-7 | none | NA | none | NA |  |
| 2005, McGlennan, 93 | 1 | none | NA | S, Jkb | hip replacment |  |
| 2007, Proudfit, 73 | 1 | E, Fya, C, c, Jka, Jkb | NA | I | caesarean delivery |  |
| 2007, Noizat-Pirenne, 5 | 1 | none | C, Fya, Ytb, S, RH23 | auto-antibodies | hip replacement |  |
| 2008, Win, 74 | 1 | none | none | none | painful crisis |  |
| 2008, Elenga, 117 | 1 | none | S | none | cholecystectomy |  |
|  | 2 | none | none | none (weak IgG DAT) | cholecystectomy |  |
| 2009, Bachmeyer, 101 | 1 | M | none | Leb | VOC |  |
| 2009, Islam, 118 | 1 | E, M, Fya, Fy3, Jkb | NA | none | pain |  |
| 2009, Chadebech, 80 | 1-2 | none | none | none | VOC/ACS |  |
|  | 3 | none | none | none (weak IgG DAT) | VOC |  |
| 2010, de Montalembert, 100 | 1-4 | none | none | none | trip prevention, 2 VOC, fever |  |
|  | 5 | C, M | none | none | surgery |  |
|  | 6 | M | none | weak reactivity | abnormal TCD |  |
|  | 7 | weak reactivity | weak reactivity | D (of partial), S | surgery |  |
|  | 8 | Leb, weak reactivity | none | D, C, e, Fy3, Kpa | surgery |  |

**Additional references in supplemental Table**

114. Rao KR, Patel AR. Delayed hemolytic transfusion reactions in sickle cell anemia. *South Med J.* 1989;82:1034-1036.

115. Petz LD, Calhoun L, Shulman IA, Johnson C, Herron RM. The sickle cell hemolytic transfusion reaction syndrome. *Transfusion.* 1997;37:382-392.

116. Talano JA, Hillery CA, Gottschall JL, Baylerian DM, Scott JP. Delayed hemolytic transfusion reaction/hyperhemolysis syndrome in children with sickle cell disease. *Pediatrics.* 2003;111:e661-665.

117. Elenga N, Mialou V, Kebaili K, Galambrun C, Bertrand Y, Pondarre C. Severe neurologic complication after delayed hemolytic transfusion reaction in 2 children with sickle cell anemia: significant diagnosis and therapeutic challenges. *J Pediatr Hematol Oncol.* 2008;30:928-930.

118. Islam MS, Chia L. Hyperhemolysis syndrome in a patient with sickle cell disease with erythrophagocytosis in peripheral blood. *Eur J Haematol.* 2009;84:188.