

Online Supplementary Content

Table SI - Newcastle Ottawa Quality Assessment Scale for the 41 cohort studies included in the systematic review.

First author, year publication ^{reference}	Selection	Comparability	Outcome
Abdelrazik, 2016 ⁴⁸	****	**	***
Ahmed, 2010 ²⁰	****	**	***
Alkindi, 2017 ⁵¹	****	**	***
Al-Rijami, 2014 ³²	****	**	***
Al-Rijami, 2018 ⁵²	****	**	***
Ameen, 2003 ¹⁴	****	**	***
Azarkeivan, 2011 ²⁵	****	**	***
Bhuva, 2017 ⁴⁹	****	**	***
Bilwani, 2005 ¹⁵	****	**	***
Chao, 2013 ³⁰	****	**	***
Chaudhari, 2013 ²³	****	*	***
Cheng, 2012 ²⁸	****	**	***
Danasoury, 2012 ²⁹	****	**	***
Datta, 2015 ⁴¹	****	**	***
Davari, 2016 ⁴⁷	****	**	***
Davoudi-Kiakalayeh, 2017 ⁵⁰	****	**	***
Dhawan, 2014 ³³	****	**	***
Dogra, 2015 ⁴⁰	****	**	***
Elhence, 2014 ³⁸	****	**	***
Guirat-Dhouib, 2011 ²⁴	****	**	***
Gupta, 2011 ²²	****	**	***
Hussein, 2014 ³⁵	****	**	***
Jain, 2014 ³⁴	****	**	***
Jansuwan, 2015 ⁴²	****	**	***
Karimi, 2007 ¹⁸	****	**	***
Kocigit, 2014 ³⁷	****	**	***
Makroo, 2013 ³¹	****	**	***
Moeen, 2018 ⁵³	****	**	***
Noor Haslina, 2006 ¹⁷	****	**	***
Obaid, 2015 ⁴⁶	****	**	***
Pahuja, 2010 ²¹	****	**	***
Philip, 2014 ³⁶	****	**	***
Sadeghian, 2009 ¹⁹	****	**	***
Saied, 2011 ²⁷	****	**	***
Seferi, 2015 ⁴³	****	**	***
Singer, 2001 ¹³	****	**	***
Thompson, 2001 ²⁶	****	**	***
Vaziri, 2015 ⁴⁴	****	**	***
Vichinsky, 2014 ³⁹	****	**	***
Wang, 2006 ¹⁶	****	*	***
Zaidi, 2015 ⁴⁵	****	**	***

Footnote. A study can be awarded a maximum of four stars for selection, a maximum of two stars for comparability and a maximum of three stars for outcome.

Table SII - Detailed analysis of red blood cell alloantibodies in each study included in the systematic review (all patients with thalassaemia).

Study (year) ^{ref}	Frequency of specific alloantibodies																								
	anti-D	anti-E	anti-C	anti-c	anti-e	anti-Cw	anti-cw	anti-f	anti-G	anti-WA1	anti-v	anti-V	anti-Kpa	anti-Kpb	anti-Jsa	anti-Fya	anti-Fyb	anti-M	anti-N	anti-S	anti-s	anti-I	anti-i	anti-Jka	anti-Jkb
Singer (2000) ¹³	0	4	0	2	0	0	0	0	0	0	0	0	6	1	0	0	0	1	0	0	0	2	0	0	1
Ameer (2003) ¹⁴	12	26	9	5	0	5	0	0	0	12	0	41	3	0	2	2	2	0	0	3	0	0	6	1	
Biwani (2005) ¹⁵	1	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	
Wang (2006) ¹⁶	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
Noor Haslina (2006) ¹⁷	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Karimi (2007) ¹⁸	6	4	2	2	1	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	
Sadeghian (2009) ¹⁹	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ahmed (2010) ²⁰	0	10	6	0	0	0	0	0	0	0	0	16	2	0	2	0	2	1	0	0	0	0	0	0	
Pahaja (2010) ²¹	1	1	0	1	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	
Gupta (2011) ²²	1	3	0	0	0	2	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	
Chaudhari (2011) ²³	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Guirat-Dhoutib (2011) ²⁴	1	3	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Azarkévan (2011) ²⁵	11	10	2	8	1	0	4	0	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	
Thompson (2011) ²⁶	4	22	11	7	6	1	0	1	1	0	2	21	6	0	0	1	1	2	0	3	0	0	5	4	
Sated (2011) ²⁷	3	13	4	3	0	0	0	0	0	0	0	13	0	0	0	3	1	2	0	3	1	1	2	2	
Cheng (2012) ²⁸	0	42	1	14	1	0	0	1	0	0	0	1	0	0	0	0	2	0	0	2	0	0	7	1	
El-Damasoury (2012) ²⁹	6	11	7	0	0	5	0	0	0	0	0	11	0	0	0	0	0	0	2	0	0	0	2	1	
Chao (2013) ³⁰	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Makroo (2013) ³¹	1	7	0	0	0	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	
Al-Riyami (2014) ³²	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Dhawan (2014) ³³	2	2	1	0	0	1	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	1	
Jain (2014) ³⁴	0	1	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	
Hussein (2014) ³⁵	3	8	0	1	0	0	0	0	0	0	0	16	0	0	0	2	0	0	0	0	0	0	1	0	
Philip (2014) ³⁶	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Kocigit (2014) ³⁷	0	1	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	
Elheuce (2014) ³⁸	0	8	1	2	0	0	0	0	0	0	0	6	0	0	0	0	0	0	1	1	0	0	1	0	
Vichinsky (2014) ³⁹	3	29	12	5	2	2	0	1	1	2	0	4	17	4	0	1	1	1	0	3	0	3	6	2	
Dogra (2015) ⁴⁰	1	3	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
Datta (2015) ⁴¹	1	6	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	
Janswan (2015) ⁴²	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
Seferi (2015) ⁴³	0	1	0	0	1	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	
Vaziri (2015) ⁴⁴	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	
Zaidi (2015) ⁴⁵	1	4	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Obaid (2015) ⁴⁶	1	0	0	1	0	0	0	0	0	0	0	1	2	4	0	0	0	0	0	0	0	0	0	0	
Davari (2016) ⁴⁷	0	1	0	1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	
Abtelrazik (2016) ⁴⁸	8	2	2	2	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	
Bhava (2017) ⁴⁹	3	1	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	
Davoudi-Kakalayeh (2017) ⁵⁰	6	11	2	0	0	0	0	0	0	0	0	15	2	0	0	0	0	0	0	0	0	0	0	0	
Alkindi (2017) ⁵¹	1	6	0	2	1	0	0	0	0	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	
Al-Riyami (2018) ⁵²	3	6	3	3	2	0	0	0	0	0	0	6	2	0	0	0	0	0	0	0	0	0	0	0	
Mosen (2018) ⁵³	0	0	0	0	0	4	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	
IQTAL	87	278	69	70	17	22	4	3	2	2	12	6	285	27	4	2	13	7	8	3	18	2	33	17	
%	6,70	21,40	5,31	5,39	1,31	1,69	0,31	0,23	0,15	0,15	0,82	0,46	21,94	2,08	0,31	0,15	1,00	0,54	0,62	0,23	1,39	0,15	0,31	0,15	1,31

Table SIII - Tests used for alloantibody screening.

Study (year) ^{ref}	Type of alloantibody testing
Singer (2000) ¹³	Not specified
Ameen (2003) ¹⁴	Gel microplate assay (GMpA) and Gel microcolumn assay (GMcA)
Bilwani (2005) ¹⁵	Gel microplate assay (GMpA)
Wang (2006) ¹⁶	More than one method used
Noor Haslina (2006) ¹⁷	Gel microcolumn assay (GMcA)
Karimi (2007) ¹⁸	Not specified
Sadeghian (2009) ¹⁹	Conventional tube test (CTT)
Ahmed (2010) ²⁰	Gel microcolumn assay (GMcA)
Pahuja (2010) ²¹	Gel microcolumn assay (GMcA)
Gupta (2011) ²²	Gel microcolumn assay (GMcA)
Chaudhari (2011) ²³	Gel microcolumn assay (GMcA)
Guirat-Dhouib (2011) ²⁴	Gel microcolumn assay (GMcA)
Azarkeivan (2011) ²⁵	Gel Card Method
Thompson (2011) ²⁶	Not specified
Saied (2011) ²⁷	Gel microcolumn assay (GMcA)
Cheng (2012) ²⁸	Gel microcolumn assay (GMcA)
El-Danasoury (2012) ²⁹	Gel microcolumn assay (GMcA)
Chao (2013) ³⁰	Not specified
Makroo (2013) ³¹	Gel microplate assay (GMpA)
Al-Riyami (2014) ³²	Gel microcolumn assay (GMcA)
Dhawan (2014) ³³	Gel microcolumn assay (GMcA)
Jain (2014) ³⁴	Gel microcolumn assay (GMcA)
Hussein (2014) ³⁵	Gel microcolumn assay (GMcA)
Philip (2014) ³⁶	Gel microcolumn assay (GMcA)
Koçyigit (2014) ³⁷	Gel microcolumn assay (GMcA)
Elhence (2014) ³⁸	Gel microcolumn assay (GMcA)
Vichinsky (2014) ³⁹	Not specified
Dogra (2015) ⁴⁰	Gel microcolumn assay (GMcA)
Datta (2015) ⁴¹	Gel microcolumn assay (GMcA)
Jansuwan (2015) ⁴²	Gel Card Method
Seferi (2015) ⁴³	Gel microcolumn assay (GMcA)
Vaziri (2015) ⁴⁴	Conventional tube test (CTT)
Zaidi (2015) ⁴⁵	Conventional tube test (CTT)
Obaid (2015) ⁴⁶	Gel microcolumn assay (GMcA)
Davari (2016) ⁴⁷	Conventional tube test (CTT)
Abdelrazik (2016) ⁴⁸	Gel microcolumn assay (GMcA)
Bhuva (2017) ⁴⁹	Gel microcolumn assay (GMcA)
Davoudi-Kiakalayeh (2017) ⁵⁰	Conventional tube test (CTT)
Alkindi (2017) ⁵¹	Gel microcolumn assay (GMcA)
Al-Riyami (2018) ⁵²	Gel microcolumn assay (GMcA)
Moeen (2018) ⁵³	Gel microcolumn assay (GMcA)

Table SIV - Detailed analysis of red blood cell alloantibodies in each study included in the systematic review (thalassaemia major vs thalassaemia intermedia).

Study (year) ^{ref}	Total thalassaemia patients	Alloimmunised thalassaemia patients		Total TM patients	Alloimmunised TM patients		Total TI patients	Alloimmunised TI patients	
		N.	%		N.	%		N.	%
Singer (2000) ¹³	64	14	22	30	NR	NR	NR	NR	NR
Ameen (2003) ¹⁴	190	57	30	190	57	30	NC	NC	NC
Bilwani (2005) ¹⁵	97	9	9,2	97	9	9,2	NC	NC	NC
Wang (2006) ¹⁶	30	11	37	28	NR	NR	NR	NR	NR
Noor Haslina (2006) ¹⁷	58	5	8,6	8	1	12,5	NR	NR	NR
Karimi (2007) ¹⁸	711	38	5,34	NR	NR	NR	NR	NR	NR
Sadeghian (2009) ¹⁹	313	9	2,87	NR	NR	NR	NR	NR	NR
Ahmed (2010) ²⁰	448	37	8,26	389	33	8,4	59	4	6,8
Pahuja (2010) ²¹	211	8	3,79	NR	NR	NR	NR	NR	NR
Gupta (2011) ²²	116	11	9,48	116	11	9,48	NC	NC	NC
Chaudhari (2011) ²³	32	6	18,8	32	6	18,8	NC	NC	NC
Guirat-Dhouib (2011) ²⁴	130	10	7,7	130	10	7,7	NC	NC	NC
Azarkeivan (2011) ²⁵	835	101	12,1	707	77	10,9	128	24	18,8
Thompson (2011) ²⁶	697	115	16,5	528	NR	NR	54	NR	NR
Saied (2011) ²⁷	95	27	28,4	74	19	25,7	21	8	38,1
Cheng (2012) ²⁸	382	88	23	382	88	23	NC	NC	NC
El-Danasoury (2012) ²⁹	235	46	19,5	235	46	19,5	NC	NC	NC
Chao (2013) ³⁰	64	6	9,4	64	6	9,4	NC	NC	NC
Makroo (2013) ³¹	462	19	4,1	NR	NR	NR	NR	NR	NR
Al-Riyami (2014) ³²	37	7	18,9	NC	NC	NC	37	7	18,9
Dhawan (2014) ³³	319	18	5,6	319	18	5,6	NC	NC	NC
Jain (2014) ³⁴	96	5	5,21	96	5	5,21	NC	NC	NC
Hussein (2014) ³⁵	272	62	22,8	NR	NR	NR	NR	NR	NR
Philip (2014) ³⁶	200	6	3	NR	NR	NR	NR	NR	NR
Koçyigit (2014) ³⁷	139	9	6,5	109	4	3,7	30	5	16,7
Elhence (2014) ³⁸	280	24	8,6	NR	NR	NR	NR	NR	NR
Vichinsky (2014) ³⁹	407	77	19	70	NR	NR	9	NR	NR
Dogra (2015) ⁴⁰	70	6	8,6	59	6	10,2	8	0	0
Datta (2015) ⁴¹	500	28	5,6	333	19	5,71	167	9	5,39
Jansuwan (2015) ⁴²	143	25	17,5	143	25	17,5	NC	NC	NC
Seferi (2015) ⁴³	118	14	11,8	118	14	11,8	NC	NC	NC
Vaziri (2015) ⁴⁴	100	4	4	NR	NR	NR	NR	NR	NR
Zaidi (2015) ⁴⁵	162	14	8,6	162	14	8,6	NC	NC	NC
Obaid (2015) ⁴⁶	40	18	45	26	NR	NR	14	NR	NR
Davari (2016) ⁴⁷	49	8	16,32	49	8	16,32	NR	NR	NR
Abdelrazik (2016) ⁴⁸	188	15	7,98	147	7	4,76	41	8	19,5
Bhuva (2017) ⁴⁹	300	8	3	300	8	2,67	NC	NC	NC
Davoudi-Kiakalayah (2017) ⁵⁰	190	47	24,7	NR	NR	NR	NR	NR	NR
Alkindi (2017) ⁵¹	129	26	20,2	NR	NR	NR	NR	NR	NR
Al-Riyami (2018) ⁵²	268	25	9,3	268	25	9,3	NC	NC	NC
Moecen (2018) ⁵³	302	12	4	302	12	4	NC	NC	NC
Total cases	9,479	1,075	11,34	5,511	528	9,58	568	65	11,44

NR: not reported; NC: no cases; TM: thalassaemia major; TI: thalassaemia intermedia.