

Study	n	Mean age	Mean NIHSS at intake	Mean TT (min)	Treatment: IA thrombolysis	Rec. (%)	Definition rec.	sICH (%)	Mortality (%)	Favourable outcome (%)	Definition favourable outcome	Occlusion site
1 Urbach 1997 [15]	12	51	NR	190	IAT (UK)	4 (33)	good/moderate	1 (8)	4 (33)	4 (33)	BI >90 at 3 mo	T
2 Zaidat 2002 [17]	5	69	15 ^a	143	IAT (UK) + IVT (rtPA)	4 (80)	partial/complete	1 (20)	1 (20)	3 (60)	mRS 0-2 at 3 mo	3 T, 2 L
3 Eckert 2003 [26]	35	55	NR (>9)	NR (<360)	IAT (UK/rtPA/rtPA + lys-plasminogen)	8 (23)	TIMI 2/3	NR	15 (43)	2 (6)	BI >90 at 3 mo	T
4 Lin 2009 [24]	17	63	17 ^a	338	IAT (rtPA/UK)	3 (18)	TIMI 2/3	2 (12)	6 (35)	NR	mRS 0-2 at 3 mo	T/L
5 Watanabe 2011 [34]	10	81	18 ^a	148	IAT (UK) ± MCD	5 (50)	TICI 2/3	2 (20)	4 (40)	1 (10)	mRS 0-2 at 3 mo	T
6 Lee 2013 [43]	16	66	16	NR	IAT (UK) ± 7 IVT (tPA)	12 (75)	TICI 2/3	1 (6)	8 (50)	1 (6)	mRS 0-2 at 3 mo	Terminus (T/L)
Total	N	Mean age	Treatment		Recanalization		sICH		Mortality		Favourable outcome	
6 studies	95	61	IA thrombolysis ± MCD		36 (38%)		7 (11.7%)		38 (40%)		11 (14%)	
Study	n	Mean age	Mean NIHSS at intake	Mean TT (min)	Treatment: MT	Rec. (%)	Definition rec.	sICH (%)	Mortality (%)	Favourable outcome (%)	Definition favourable outcome	Occlusion site
1 Mori 2006 [30]	8	64	20	182	Stent-retrieval + aspiration	4 (50)	TIMI 2/3	0 (0)	2 (25)	3 (38)	mRS 0-2 at 3 mo	8 intracranial (2 C6, 6 C7)
2 Lin 2009 [24]	18	71	18 ^a	374	Mechanical (MERC) retriever/angioplasty/stent)	6 (33)	TIMI 2/3	3 (17)	8 (44)	NR	mRS 0-2 at 3 mo	T/L
3 Miteff 2011 [22]	3	70	20	389	Stent-retrieval (Solitaire)	3 (100)	TIMI 2/3	0 (0)	0 (0)	2 (66)	mRS 0-2 at 3 mo	3 T
	2	65	16	313	Stent-retrieval (Solitaire) + Penumbra/MERC/ IAT (UK)	2 (100)	TIMI 2/3	1 (50)	1 (50)	0 (0)	mRS 0-2 at 3 mo	2 T
4 Costalat 2011 [20]	14	70	15	243	Stent-retriever (Solitaire) ± IVT (warfarin)	10 (71)	TICI 3	0 (0)	2 (14)	6 (43)	mRS 0-2 at 3 mo/NIHSS 0-1 at 3 mo	Terminal (T/L)
5 Fesl 2011 [35]	14	59	19 ^a	252	Aspiration (Penumbra) ± other mechanical	11 (79)	TIMI 2/3	7 (50)	6 (43)	3 (21)	mRS 0-2 at 3 mo	T
6 Hwang 2013 [39]	20	65	18	127	Aspiration (modified Penumbra)	17 (85)	TICI 2/3	3 (15)	0 (0)	9 (45)	mRS 0-2 at 3 mo	T/L
7 Yoon 2013 [41]	26	73	13	240	Stent-retriever (Solitaire) ± IAT (UK)/MCD/angioplasty/aspiration ± IVT (rtPA)	20 (77)	TICI 2b/3	0 (0)	10 (38)	10 (38)	mRS 0-2 at 3 mo	Intracranial
8 Lee 2013 [43]	10	69	18	NR	Stent-retriever (Solitaire)+ aspiration (Penumbra)+ IVT (rtPA) ± stent	6 (60)	TICI 2/3	0 (0)	4 (40)	0 (0)	mRS 0-2 at 3 mo	Terminus (T/L)
Total	N	Mean age	Treatment		Recanalization		sICH		Mortality		Favourable outcome	
8 studies	115	70	MT		79 (69%)		14 (12.2%)		33 (29%)		33 (34%)	

Supplemental Table 1: IA thrombolysis and MT for intracranial occlusions. TT: Time to Treatment, min: minutes, rec: recanalization, sICH: symptomatic IntraCranial Haemorrhage. IAT: Intra-Arterial Thrombolysis, UK: urokinase, rtPA: recombinant tissue Plasminogen Activator, MCD: mechanical clot disruption, mRS: modified Rankin Scale, BI: Barthel Index, NIHSS: National Institutes of Health Stroke Scale, TIMI: Thrombolysis In Myocardial Infarction, TICI: Thrombolysis In Cerebral Infarction.

NR: Not Retrievable

^a Data presented as median

Number of studies	N	Mean age	Recanalization	sICH	Mortality	Favourable outcome
14 studies	210	66	115 (55%)	21 (12%)	71 (34%)	44 (25%)

Supplemental Table 2: Overall clinical results for intracranial occlusion patients. sICH; symptomatic IntraCranial Haemorrhage.

Study	n	Mean age	Mean NIHSS at intake	Mean TT (min)	Treatment: IA thrombolysis	Rec. (%)	Definition rec.	sICH (%)	Mortality (%)	Favourable outcome (%)	Definition favourable outcome	Occlusion site
1 Endo 1997 [16]	16	68	NR (>24)	NR (<360)	IAT (UK/rtPA)	3 (19)	successful	1 (6)	10 (62.5)	0 (0)	mRS 0-2 at 1 mo	Extracranial
2 Sorimachi 2004 [27]	11	71	23	212	IAT (UK)+MCD	10 (91)	opened	0 (0)	1 (9)	4 (36)	mRS 0-2 at 3 mo	Extracranial (3 C1, 3 C2, 3 C3, 2 C4)
Total	N	Mean age	Treatment		Recanalization	sICH		Mortality		Favourable outcome		
2 studies	27	69	IA thrombolysis ± MCD		13 (48%)	1 (4%)		11 (41%)		4 (15%)		

Study	n	Mean age	Mean NIHSS at intake	Mean TT (min)	Treatment: stenting	Rec. (%)	Definition rec.	sICH (%)	Mortality (%)	Favourable outcome (%)	Definition favourable outcome	Occlusion site
1 Jovin 2005 [28]	5	59	13	300	Stent (Wallstent)+ angioplasty + 8 IVT (rtPA)	5 (100)	successful	0 (0)	0 (0)	5 (100)	mRS 0-2 at 1 mo	5 extracranial
2 Miyamoto 2008 [18]	5	75	7	510	Stent (NIR, SMART, Precise) + angioplasty + IVT (UK) + for intracranial IAT (UK)	5 (100)	complete	0 (0)	0 (0)	5 (100)	mRS 0-2 at 3 mo	5 extracranial
3 Hauck 2011 [38]	22	65	14	NR	Stent (Wallstent) ± IVT (rtPA)	17 (77)	TIMI 2/3	0 (0)	7 (32)	11 (50)	mRS 0-2 at 3 mo	extracranial
4 Dalyai 2013 [19]	6	63	15	NR	Stent (Precise/ Cordis/ Abbott) + angioplasty ± IVT (rtPA)	6 (100)	successful	0 (0)	0 (0)	5 (83)	mRS 0-2 at 3 mo	6 extracranial
Total	N	Mean age	Treatment		Recanalization	sICH		Mortality		Favourable outcome		
4 studies	38	65	Stenting		33 (87%)	0 (0%)		7 (18%)		26 (68%)		

Supplemental Table 3: IA thrombolysis and stenting in extracranial occlusions. TT: Time to Treatment, min: minutes, rec: recanalization, sICH: symptomatic IntraCranial Haemorrhage. IAT: Intra-Arterial Thrombolysis, UK: urokinase, rtPA: recombinant tissue Plasminogen Activator, mRS: modified Rankin Scale, NIHSS: National Institutes of Health Stroke Scale, TIMI: Thrombolysis In Myocardial Infarction. NR: Not Retrievable

Number of studies	N	Mean age	Recanalization	sICH	Mortality	Favourable outcome
6 studies	65	64	46 (71%)	1 (2%)	18 (28%)	30 (46%)

Supplemental Table 4: Overall clinical results of extracranial occlusion patients. sICH; symptomatic Intracranial Haemorrhage.

Study	n	Mean age	Mean NIHSS at intake	Mean TT (min)	Treatment extra	Treatment intra	Rec ex (%)	Rec int (%)	Def rec.	sICH (%)	Mort. (%)	Fav outcome (%)	Def fav outcome	Occlusion site	
1 Eckert 2003 [26]	8	55	NR (>9)	NR (<360)	IAT (UK/rtPA ± lys-plasminogen)	IAT (UK/rtPA ± lys-plasminogen)	5 (63)	NR	TIMI 2/3	NR	0 (0)	4 (50)	BI >90 at 3 mo	8 tandem (extracranial+MCA)	
2 Jovin 2005 [28]	10	59	17	300	Stent (Wallstent)+ angioplasty + 8 IVT (rtPA)	IAT (tPA)/ angioplasty/ nothing	10 (100)	6 (60)	successful	0 (0)	3 (30)	1 (10)	mRS 0-2 at 1 mo	tandem	
3 Miya moto 2008 [18]	5	79	14	354	Stent (NIR, SMART, Precise) + angioplasty + IVT (UK)	IAT (UK)/ nothing	5 (100)	3 (60)	Complete / partial	0 (0)	1 (20)	1 (20)	mRS 0-2 at 3 mo	tandem (extracranial + intracranial ICA/MCA)	
4 Kim 2008 [33]	10	60	13	289	IAT (UK) ± IVT (rtPA)	IAT (UK) ± IVT (rtPA)	6 (60)	6 (60)	TIMI 2/3	1 (10)	0 (0)	5 (50)	mRS 0-2 at 3 mo	Tandem (extracranial ICA + MCA)	
5 Miteff 2011 [22]	3	68	19	361	Stenting + angioplasty	Stent-retrieval (Solitaire)	3 (100)	NR	TIMI 2/3	0 (0)	0 (0)	1 (33)	mRS 0-2 at 3 mo	3 tandem	
	2	63	14	187	Stenting + angioplasty	Stent-retrieval (Solitaire) + Penumbra / MERCI/ IAT (UK)	2 (100)	NR	TIMI 2/3	0 (0)	0 (0)	2 (100)	mRS 0-2 at 3 mo	2 tandem (extra+MCA)	
6 Papanagioto u 2011 [36]	18	65	17	246	Stent (Wallstent) ± angioplasty ± IVT (rtPA)	Aspiration (Penumbra) / stent-retrieval (Solitaire) ± IAT (tPA)	18 (100)	11 (61)	TIMI 2/3	NR	NR	NR	mRS 0-2 at 3 mo	4 extracranial, 18 tandem (extra + intralCA/ MCA)	
7 Malik 2011 [37]	77	63	15	433	Stent (Acculink/ Protegé/ Precise/ Wallstent) ± angioplasty	IAT (tPA/UK)/ Merci/ Penumbra / angioplasty ± stent	77 (100)	58 (75)	TIMI 2/3	8 (10)	19 (25)	32 (42)	mRS 0-2 at 3 mo	Tandem (extra + intracranial: 26 T, 33 M1, 18 M2)	
8 Mpotsaris 2013 [42]	41	62	16	NR	Stent (Wallstent) ± 34 IVT (rtPA).	Stent-retrieval (Solitaire)	41 (100)	35 (85)	TIMI 2/3	3 (7)	15 (37)	15 (37)	mRS 0-2 at 3 mo	Tandem (extraICA + T/ MCA)	
9 Dalyai 2013 [19]	11	62	18	NR	Stent (Precise/ Cordis/ Abbott) + angioplasty ± IVT (rtPA)	Merci/ Penumbra / stenting/ angioplasty/ IAT (UK/tPA)/ combination/ nothing	10 (91)	NR	successful	3 (27)	3 (27)	4 (36)	mRS 0-2 at 3 mo	11 tandem	
10 Kwak 2013 [45]	35	65	12 ^a	450	Stent (Precise) + angioplasty ± 8 IV rtPA	IAT ± MCD ± aspiration	35 (100)	NR	TICI 2/3	1 (3)	4 (11)	22 (63)	mRS 0-2 at 3 mo	Tandem (extra + intralCA/ MCA)	
Total	N	Mean age	Treatment			Rec ex	Rec int		sICH		Mortality		Favorable Outcome		
10 studies	220	63	IA therapy			212 (96%)	119 (74%)		16 (8%)		45 (22%)		87 (43%)		

Supplemental Table 5: Overall results of treatment in tandem occlusions. TT: Time to Treatment, min: minutes, rec: recanalization, ex: extracranial, int: intracranial, sICH: symptomatic IntraCranial Haemorrhage. IAT: Intra-Arterial Thrombolysis, UK: urokinase, rtPA: recombinant tissue Plasminogen

Activator, MCD: mechanical clot disruption, mRS: modified Rankin Scale, BI: Barthel Index, NIHSS: National Institutes of Health Stroke Scale, TIMI: Thrombolysis In Myocardial Infarction, TICI: Thrombolysis In Cerebral Infarction.
 NR: Not Retrievable. ^a Data presented as median.

Number of studies	N	Mean age	sICH (%)	Mortality (%)	Favourable outcome (%)
Extracranial: IA thrombolysis + Intracranial: IA thrombolysis					
2 studies	18	58	1 (6)	0 (0)*	9 (50)
Extracranial: stenting + Intracranial: IA thrombolysis					
1 study	5	79	0 (0)	1 (20)	1 (20)
Extracranial: stenting + Intracranial: stent-retrieval					
2 studies	44	62	3 (7)	15 (34)*	16 (35)
Extracranial: stenting + Intracranial: combination of IA thrombolysis + mechanical					
5 studies	135	63	12 (9)	44 (33)*	61 (45)

Supplemental Table 6: Results treatment results in tandem occlusions. sICH: symptomatic IntraCranial Haemorrhage. * There is a statistically significant difference in the mortality between the group treated with IA thrombolysis for the extracranial and intracranial artery and the group treated with a stent for the extracranial occlusion and a mechanical device for the intracranial occlusion.