

Supplementary Material

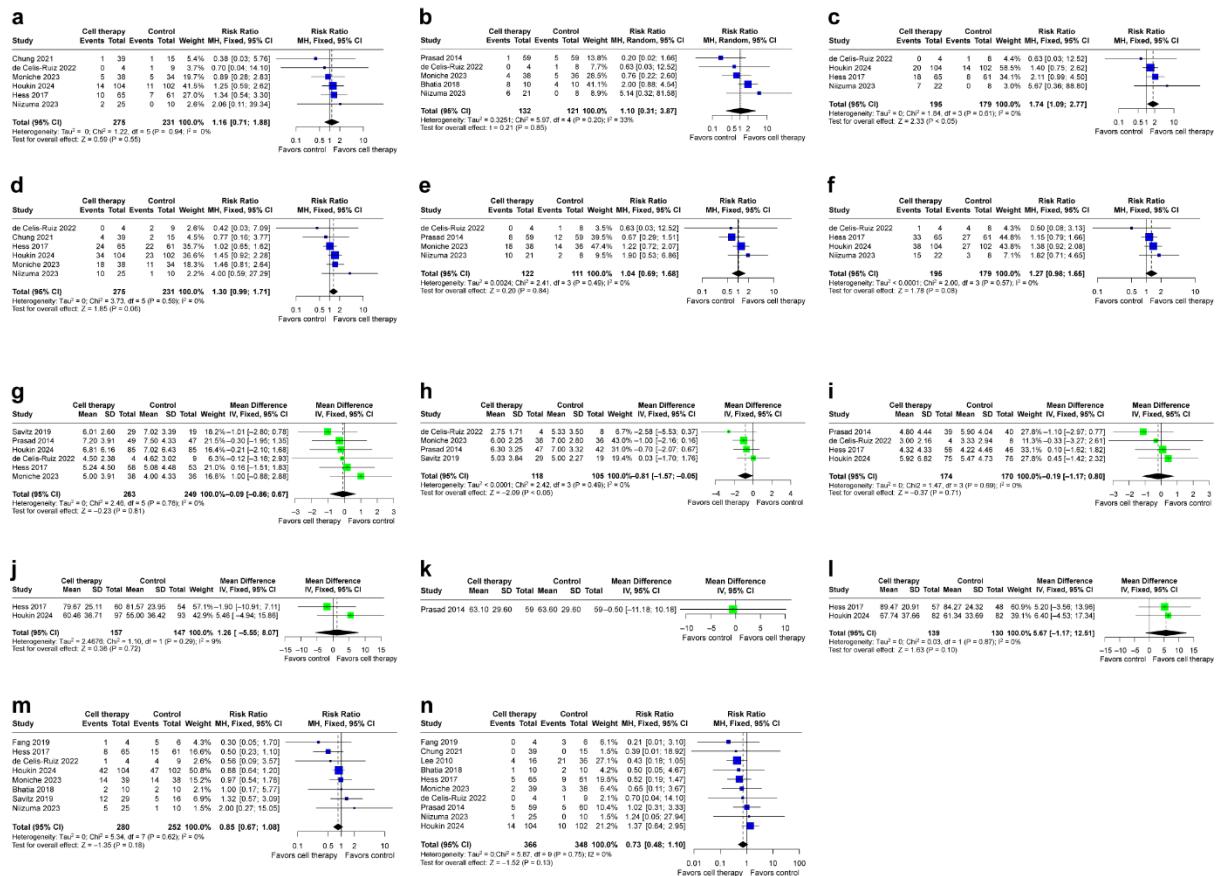


Figure S1. Forest plots for sensitivity analyses, excluding studies with a high risk of bias

Forest plots comparing the risks of modified Rankin Scale (mRS) scores of 0–1 at 90, 180, and 365 days after treatment (a, b, and c), the risks of mRS scores of 0–2 at 90, 180, and 365 days after treatment (d, e, and f), the mean differences in National Institutes of Health Stroke Scale scores at 90, 180, and 365 days after treatment (g, h, and i), the mean differences in Barthel Index scores at 90, 180, and 365 days after treatment (j, k, and l), the risks of serious adverse events up to the last follow-up (m), and the risks of mortality up to the last follow-up (n).

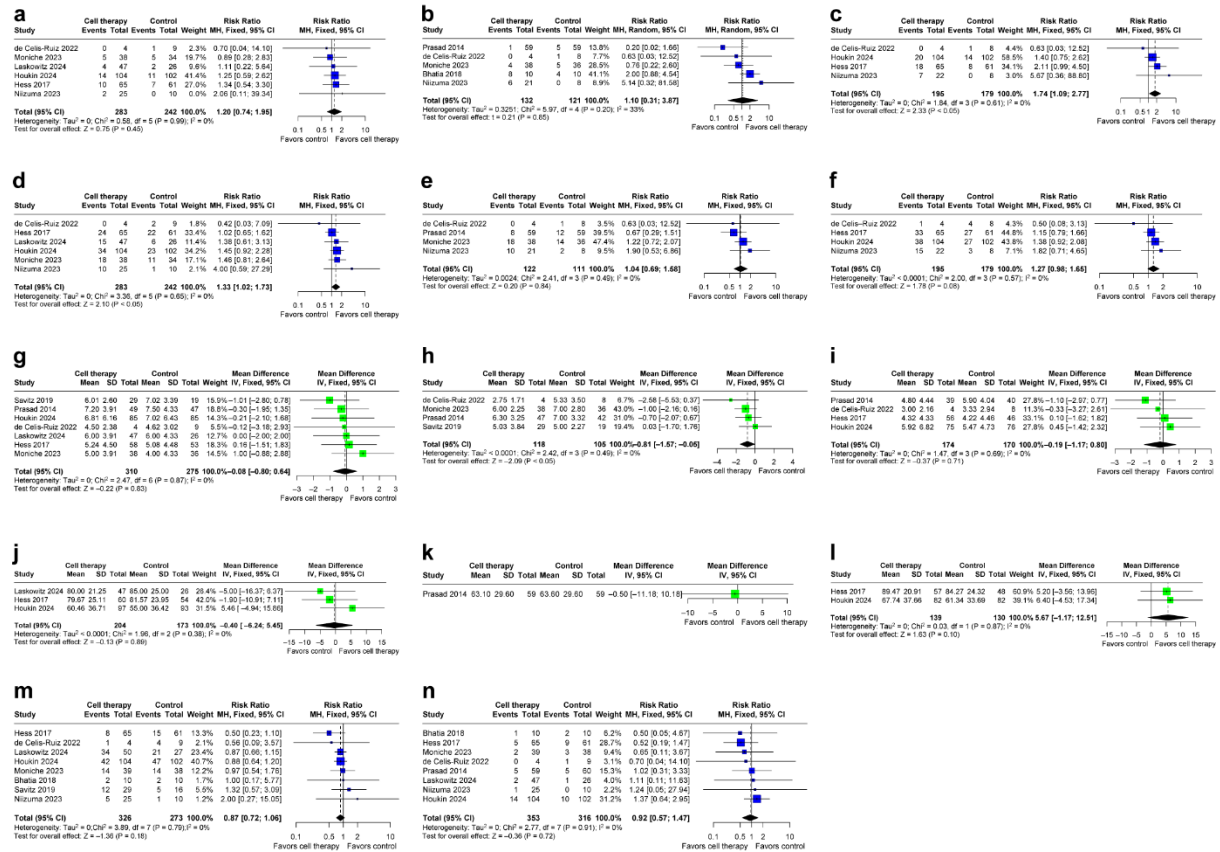


Figure S2. Forest plots for sensitivity analyses, excluding studies that included participants potentially treated more than 30 days after onset

Forest plots comparing the risks of modified Rankin Scale (mRS) scores of 0–1 at 90, 180, and 365 days after treatment (a, b, and c), the risks of mRS scores of 0–2 at 90, 180, and 365 days after treatment (d, e, and f), the mean differences in National Institutes of Health Stroke Scale scores at 90, 180, and 365 days after treatment (g, h, and i), the mean differences in Barthel Index scores at 90, 180, and 365 days after treatment (j, k, and l), the risks of serious adverse events up to the last follow-up (m), and the risks of mortality up to the last follow-up (n).

Supplement table 1. Search terms

CENTRAL (Searched on January 17, 2024)

No	Query	Results
#1	MeSH descriptor: [Cerebrovascular Disorders] explode all trees	23123
#2	cerebrovasc* or cerebral vascular	32316
#3	cerebral or cerebellar or brain* or vertebrobasilar	105428
#4	infarct* or isch?emi* or thrombo* or emboli* or apoplexy	142952
#5	#3 AND #4	23642
#6	stroke* or cva or poststroke or post-stroke	86213
#7	#1 OR #2 OR #5 OR #6	104057
#8	MeSH descriptor: [Cell- and Tissue-Based Therapy] explode all trees	8773
#9	Stem cell* or Cellular Therapy or Regenerative medicine or Bone marrow mononuclear cell* or Mesenchymal Stem cell* or Peripheral blood cell* or Induced Pluripotent stem cell* or Embryonic stem cell* or Neural stem cell* or mononuclear cell* or cell-based therapy or progenitor cell* or cell therapy or autologous stem cell* or nerve stem cell*	106873
#10	(Autologous or bone marrow* or mononuclear or nerve or neural or mononuclear or mesenchymal) near/5 cell*	20745
#11	#8 OR #9 OR #10	114601
#12	#7 AND #11	5233

Embase (Searched on January 17, 2024)

No.	Query	Results
1	'cerebrovascular disease'/exp OR 'cerebrovascular disease' OR 'brain ischemia'/exp OR 'brain ischemia' OR 'carotid artery disease'/exp OR 'carotid artery disease' OR 'cerebral artery disease'/exp OR 'cerebral artery disease' OR 'cerebrovascular accident'/exp OR 'cerebrovascular accident' OR 'occlusive	955207

	cerebrovascular disease'/exp OR 'occlusive cerebrovascular disease' OR 'stroke patient'/exp OR 'stroke patient'	
2	stroke OR poststroke OR 'post stroke' OR cerebrovasc\$ OR (brain AND vasc\$) OR (cerebral AND vasc\$) OR cva\$ OR apoplex\$:ti,ab,tt	623535
3	((brain\$ OR cerebr\$ OR cerebell\$ OR intracran\$ OR intracerebral) NEAR/5 (isch?emi\$ OR infarct\$ OR thrombo\$ OR emboli\$ OR occlus\$)):ti,ab,tt	12054
4	#1 OR #2 OR #3	1113786
5	'cell therapy'/exp	267196
6	stem AND cell\$ OR (cellular AND therapy) OR (regenerative AND medicine) OR (bone AND marrow AND mononuclear AND cell\$) OR (mesenchymal AND stem AND cell\$) OR (peripheral AND blood AND cell\$) OR (induced AND pluripotent AND stem AND cell\$) OR (embryonic AND stem AND cell\$) OR (neural AND stem AND cell\$) OR (mononuclear AND cell\$) OR ('cell based' AND therapy) OR (progenitor AND cell\$) OR 'cell therapy' OR (autologous AND stem AND cell\$) OR 'nerve stem cell*':ti,ab,tt	1672844
7	#5 OR #6	1686577
8	'randomized controlled trial'/exp	805344
9	'controlled clinical trial'/de	441857
10	random*:ti,ab,tt	2016941
11	'randomization'/de	98792
12	'intermethod comparison'/de	305552
13	placebo:ti,ab,tt	371694
14	compare:ti,tt OR compared:ti,tt OR comparison:ti,tt	637505
15	(evaluated:ab OR evaluate:ab OR evaluating:ab OR assessed:ab OR assess:ab) AND (compare:ab OR compared:ab OR comparing:ab OR comparison:ab)	2844378
16	(open NEXT/1 label):ti,ab,tt	112011
17	((double OR single OR doubly OR singly) NEXT/1 (blind OR blinded OR blindly)):ti,ab,tt	279709
18	'double blind procedure'/de	215015

19	(parallel NEXT/1 group*):ti,ab,tt	32826
20	crossover:ti,ab,tt OR 'cross over':ti,ab,tt	126516
21	((assign* OR match OR matched OR allocation) NEAR/6 (alternate OR group OR groups OR intervention OR interventions OR patient OR patients OR subject OR subjects OR participant OR participants)):ti,ab,tt	466890
22	assigned:ti,ab,tt OR allocated:ti,ab,tt	500104
23	(controlled NEAR/8 (study OR design OR trial)):ti,ab,tt	469458
24	volunteer:ti,ab,tt OR volunteers:ti,ab,tt	287261
25	'human experiment'/de	655308
26	trial:ti,tt	418178
27	#8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26	6501838
28	((random* NEXT/1 sampl* NEAR/8 ('cross section*' OR questionnaire* OR survey OR surveys OR database OR databases)):ti,ab,tt) NOT ('comparative study'/de OR 'controlled study'/de OR 'randomised controlled':ti,ab,tt OR 'randomized controlled':ti,ab,tt OR 'randomly assigned':ti,ab,tt)	3216
29	'cross-sectional study'/de NOT ('randomized controlled trial'/exp OR 'controlled clinical study'/de OR 'controlled study'/de OR 'randomised controlled':ti,ab,tt OR 'randomized controlled':ti,ab,tt OR 'control group':ti,ab,tt OR 'control groups':ti,ab,tt)	372837
30	'case control*':ti,ab,tt AND random*:ti,ab,tt NOT ('randomised controlled':ti,ab,tt OR 'randomized controlled':ti,ab,tt)	21846
31	'systematic review':ti,tt NOT (trial:ti,tt OR study:ti,tt)	270717
32	nonrandom*:ti,ab,tt NOT random*:ti,ab,tt	19175
33	'random field*':ti,ab,tt	2971
34	('random cluster' NEAR/4 sampl*):ti,ab,tt	1623
35	review:ab AND review:it NOT trial:ti,tt	1147745
36	'we searched':ab AND (review:ti,tt OR review:it)	50895
37	'update review':ab	138

38	(databases NEAR/5 searched):ab	69622
39	(rat:ti,tt OR rats:ti,tt OR mouse:ti,tt OR mice:ti,tt OR swine:ti,tt OR porcine:ti,tt OR murine:ti,tt OR sheep:ti,tt OR lambs:ti,tt OR pigs:ti,tt OR piglets:ti,tt OR rabbit:ti,tt OR rabbits:ti,tt OR cat:ti,tt OR cats:ti,tt OR dog:ti,tt OR dogs:ti,tt OR cattle:ti,tt OR bovine:ti,tt OR monkey:ti,tt OR monkeys:ti,tt OR trout:ti,tt OR marmoset*:ti,tt) AND 'animal experiment'/de	1240964
40	'animal experiment'/de NOT ('human experiment'/de OR 'human'/de)	2606993
41	#28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40	4425549
42	#4 AND #7 AND #27	7572
43	#42 NOT #41	5355

MEDLINE (via pubmed) (Searched on January 17, 2024)

No	Query	Results
1	Cerebrovascular disorders	444,904
2	(Stroke*[Text Word] OR cva[Text Word] OR poststroke[Text Word] OR post-stroke[Text Word])	395,360
3	(cerebrovasc*[Text Word] OR cerebral vascular[Text Word] OR isch?emi*[Text Word])	159,456
4	(infarct*[Text Word] OR isch?emi*[Text Word] OR thrombo*[Text Word] OR emboli*[Text Word] OR apoplexy[Text Word])	981,233
5	(cerebral[Text Word] OR cerebellar[Text Word] OR brain*[Text Word] OR vertebrobasilar[Text Word])	2,027,962
6	#4 AND #5	144,792
7	#1 OR #2 OR #3 OR #6	737,096
8	Cell- and Tissue-Based Therapy	343,089
9	"Stem cell*" [Text Word] OR "Cellular Therapy" [Text Word] OR "Regenerative medicine" [Text Word] OR "Bone marrow mononuclear cells*" [Text Word] OR "Mesenchymal Stem cell*" [Text Word] OR "Peripheral blood cell*" [Text Word] OR	623,914

	"Induced Pluripotent stem cell*" [Text Word] OR "Embryonic stem cell*" [Text Word] OR "Neural stem cell*" [Text Word] OR "mononuclear cell*" [Text Word] OR "cell-based therapy" [Text Word] OR "progenitor cell*" [Text Word] OR "cell therapy" [Text Word] OR "autologous stem cell" [Text Word] OR "nerve stem cell" [Text Word]	
10	#8 OR #9	841,269
11	randomized controlled trial [Publication Type]	608,040
12	controlled clinical trial [Publication Type]	698,651
13	randomized [Title/Abstract]	689,313
14	placebo [Title/Abstract]	251,729
15	drug therapy [MeSH Subheading]	2,656,086
16	randomly [Title/Abstract]	425,603
17	trial [Title/Abstract]	799,945
18	Groups [Title/Abstract]	2,654,045
19	#11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18	5,933,256
20	#7 AND #10 AND #19	2,886
21	(animals [MeSH Terms]) NOT (humans [MeSH Terms])	5,185,596
22	#20 NOT #21	2,030
23	review [Publication Type]	3,269,152
24	#22 NOT #23	1,558

Clinicaltrials.gov (81 results) (Searched on January 17, 2024)

Condition:

Brain Infarction OR Intracranial Hemorrhages OR Carotid Artery Diseases OR Brain Ischemia OR Cerebral Hemorrhage OR Cerebrovascular Disorders OR Stroke

Other terms:

Stem cell or cell therapy

(WHO ICTRP) (7 results) (Searched on January 17, 2024)

Intervention:Stem cell

Condition:stroke