

ON-LINE APPENDIX: ACTUAL SEARCH STRATEGIES

Data bases: Ovid MEDLINE 1946 to Present and Epub Ahead of Print; In-Process & Other Non-Indexed Citations and Ovid MEDLINE Daily; Evidence-Based Medicine Reviews, Cochrane

Central Register of Controlled Trials February 2020; Evidence-Based Medicine Reviews, Cochrane Data Base of Systematic Reviews 2005 to March 4, 2020; EMBASE 1974 to March 10, 2020.

On-line Table 1: Baseline characteristics of included studies

Study	No. Patients	Definition of Aneurysm Wall Enhancement	Qualitative or Quantitative Determination of Enhancement?	No. Stable	No. Unstable	Imaging Sequences	Interobserver Agreement	Mean Aneurysm Size (mm)	Mean Follow-Up Period after Aneurysm Wall Imaging
Edjlali et al, 2018 ⁶	263	Focal or circumferential wall enhancement with any degree of thickness	Qualitative	278	31	3T MR imaging, VWI	$\kappa = 0.82$ (95% CI, 0.67–0.99)	5 (IQR = 4)	6 ^a
Vergouwen et al, 2019 ¹⁹	57	Any enhancement (absent or present)	Qualitative	61	2	3T and 7T MR imaging, VWI	NR	NR	27 (IQR = 24–32)
Tian et al, 2019 ¹⁸	29	Aneurysm wall signal intensity greater than or equal to pituitary infundibulum	Quantitative	35	0	3T, VWI	ICC: 0.98	5.4	12.7 (range, 6–30)

Note:—IQR indicates Interquartile range. NR, not reported; ICC, intraclass correlation coefficient.

^a All patients had follow-up imaging performed at 6 months.

On-line Table 2: Imaging characteristics of included studies

Study	Imaging Sequence	Section Thickness (mm)	Flow Suppression Prepulse	Flip Angle	TR/TE (ms)	FOV	Matrix Size	Voxel Size	Scan Time
Edjlali et al, 2018 ¹⁶	3D T1WI FSE	NR	NR	NR	600/11.5	23 × 23 × 16 cm ³	288 × 288 × 160 interpolated 512 × 512 × 320	NR	4 min, 16 sec
Vergouwen et al, 2019 ¹⁹	TOF, 3D TSE	NR	NR	90°	1500/36	200 × 166 × 45 mm	NR	NR	8 min, 3 sec
Tian et al, 2019 ¹⁸	3D FSE, SPACE	0.5	NR	Variable	1000/17	18 × 18 cm	360 × 360	NR	9 min, 58 sec

Note:—SPACE indicates a sequence (sampling perfection with application-optimized contrasts by using different flip angle evolutions) (Siemens); NR, not reported.

On-line Table 3. Risk of bias assessment for observational studies (Robins-I tool)

Study	Confounding	Selection	Measurement of Interventions	Deviations from Intended Interventions	Missing Data	Measurement of Data	Selection of Reported Result
Edjlali et al, 2018 ¹⁶	Moderate	Low	Low	Low	Moderate	Low	Low
Vergouwen et al, 2019 ¹⁹	Moderate	Low	Low	Low	Moderate	Low	Low
Tian et al, 2019 ¹⁸	Moderate	Low	Low	Low	Moderate	Low	Low

On-line Table 4: Ovid search strategy

No.	Searches
1	exp *MR imaging/
2	*diagnostic imaging/
3	"imaging, Three-Dimensional/"
4	(imaging or MR or MPRAGE or MP-RAGE or gadolinium or MR imaging).ti,ab,hw,kw.
5	(VWI or HR-VWI).ti,ab,hw,kw.
6	or/1-4
7	Intracranial Aneurysm/
8	Aneurysm, Ruptured/
9	Subarachnoid Hemorrhage/
10	((intracranial or cerebral or brain or subarachnoid) adj2 (aneurysm* or hemorrhag* or hemorrhag*)).mp.
11	or/7-10
12	6 and 11
13	Intracranial Aneurysm/dg
14	12 or 13
15	14 and wall*.mp.
16	((imaging or "MR" or MR or "MPRAGE" or MP-RAGE or MR imaging or VWI or HR-VWI) adj5 (intracranial or vessel* or arter* or enhancement) adj5 (rupture* or unruptur* or aneurysm* or disease* or instability or stability or stable or unstable or biomarker* or marker* or inflammat* or predict* or diagnos* or detect* or risk*)).ti.
17	15 or 16
18	(conference abstract or editorial or erratum or note or addresses or autobiography or bibliography or biography or blogs or comment or dictionary or directory or interactive tutorial or interview or lectures or legal cases or legislation or news or newspaper article or patient education handout or periodical index or portraits or published erratum or video-audio media or webcasts).mp.
19	17 not 18
20	limit 19 to english language [Limit not valid in CDSR; records were retained]
21	limit 19 to no language specified [Limit not valid in CDSR; records were retained]
22	20 or 21
23	22 not ((exp animals/ or exp nonhuman/) not exp humans/)
24	limit 23 to yr = "2000-Current"
25	remove duplicates from 24
26	23 not 24
27	remove duplicates from 26
28	25 or 27

On-line Table 5: Scopus search strategy

No.	Searches
1	TITLE ((imaging OR mr OR "MR" OR mprage OR "MP-RAGE" OR mri OR vwi OR hr-vwi) W/5 (intracranial OR vessel* OR arter* OR enhancement) W/5 (rupture* OR unruptur* OR aneurysm*))
2	INDEX(embase) OR INDEX(medline) OR PMID(0* OR 1* OR 2* OR 3* OR 4* OR 5* OR 6* OR 7* OR 8* OR 9*)
3	1 not 2
4	DOCTYPE(ed) OR DOCTYPE(bk) OR DOCTYPE(er) OR DOCTYPE(no) OR DOCTYPE(sh) OR DOCTYPE(ch)
5	3 not 4
6	LANGUAGE(english)
7	5 and 6
8	(TITLE-ABS-KEY ((alpaca OR alpacas OR amphibian OR amphibians OR animal OR animals OR antelope OR armadillo OR armadillos OR avian OR baboon OR baboons OR beagle OR beagles OR bee OR bees OR bird OR birds OR bison OR bovine OR buffalo OR buffaloes OR buffalos OR "c elegans" OR "Caenorhabditis elegans" OR camel OR camels OR canine OR canines OR carp OR cats OR cattle OR chick OR chicken OR chickens OR chicks OR chimp OR chimpanze OR chimpanzees OR chimps OR cow OR cows OR "D melanogaster" OR "dairy calf" OR "dairy calves" OR deer OR dog OR dogs OR donkey OR donkeys OR drosophila OR "Drosophila melanogaster" OR duck OR duckling OR ducklings OR ducks OR equid OR equids OR equine OR equines OR feline OR felines OR ferret OR ferrets OR finch OR finches OR fish OR flatworm OR flatworms OR fox OR foxes OR frog OR frogs OR "fruit flies" OR "fruit fly" OR "G mellonella" OR "Galleria mellonella" OR geese OR gerbil OR gerbils OR goat OR goats OR goose OR gorilla OR gorillas OR hamster OR hamsters OR hare OR hares OR heifer OR heifers OR horse OR horses OR insect OR insects OR jellyfish OR kangaroo OR kangaroos OR kitten OR kittens OR lagomorph OR lagomorphs OR lamb OR lambs OR llama OR llamas OR macaque OR macaques OR macaw OR macaws OR marmoset OR marmosets OR mice OR minipig OR minipigs OR mink OR minks OR monkey OR monkeys OR mouse OR mule OR mules OR nematode OR nematodes OR octopus OR octopuses OR orangutan OR "orang-utan" OR orangutans OR "orang-utans" OR oxen OR parrot OR parrots OR pig OR pigeon OR pigeons OR piglet OR piglets OR pigs OR porcine OR primate OR primates OR quail OR rabbit OR rabbits OR rat OR rats OR reptile OR reptiles OR rodent OR rodents OR ruminant OR ruminants OR salmon OR sheep OR shrimp OR slug OR slugs OR swine OR tamarin OR tamarins OR toad OR toads OR trout OR urchin OR urchins OR vole OR voles OR waxworm OR waxworms OR worm OR worms OR xenopus OR "zebra fish" OR zebrafish) AND NOT (human OR humans OR patient OR patients)))
9	7 not 8