ON-LINE APPENDIX

Search Strategy Key Terms Used in EMBASE

1. exp aneurysm/
2. aneurysm$.mp.
3. 1 or 2
4. sah.mp.
5. subarachnoid hemorrhage/
6. ((arachnoid$ or subarachnoid$) adj5 (bleeding or blood or hemorrhag$ or haemorrhag$)).mp.
7. 4 or 5 or 6
8. exp tomography, x-ray computed/
9. expscintigraphy/
10. 8 and 9
11. ((ct or scan or scanner or scanning or scanned or scintigraphy or tomography or imaging or image$) adj5 perfus$).mp.
12. 10 or 11
13. 3 and 7 and 12
14. limit 13 to (EMBASE and "reviews (maximizes sensitivity)")

Search Strategy Key Terms Used in Ovid MEDLINE

1. exp Aneurysm/
2. aneurysm$.mp.
3. 1 or 2
4. exp Subarachnoid Hemorrhage/
5. ((arachnoid$ or subarachnoid$) adj5 (bleeding or blood or hemorrhag$ or haemorrhag$)).mp.
6. sah.mp.
7. 4 or 5 or 6
8. exp Perfusion Imaging/
9. exp tomography, x-ray computed/
10. 8 and 9
11. ((ct or scan or scanner or scanning or scanned or scintigraphy or tomography or imaging or image$) adj5 perfus$).mp.
12. 10 or 11
13. 3 and 7 and 12
14. limit 13 to "prognosis (maximizes sensitivity)"

Search Strategy Key Terms Used in Web of Science

1. Topic = (aneurysm*)
2. Topic = (blood OR bleeding OR hemorrhage* OR hemorrhag*)
3. Topic = (arachnoid* OR subarachnoid*)
4. Topic = (tomography OR ct OR scan OR scanning OR scanned OR scans OR imagery OR imaging)
5. Topic = (tomography OR ct OR scan OR scan OR scanning OR scanned OR scans OR imagery OR imaging) AND Topic = (perfus*)
6. Topic = (perfus*)
7. #3 and #1
8. #3 and #2
9. #8 OR #7
10. #6 AND #4
11. #10 OR #5
12. #11 AND #10 AND #9
13. Topic = (prognostic OR prognosis OR outcome* OR incident OR incidence OR predict* OR course*)
14. #13 AND #12
15. Title = (aneurysm*)
16. Title = (arachnoid OR subarachnoid*)
17. Title = (tomography OR ct OR scan OR scanning OR scanned OR scans OR imagery OR imaging)
18. Title = (blood OR bleeding OR hemorrhage* or hemorrhag*)
19. #18 OR #17 OR #16 OR #15
20. #19 AND #14

QUADAS Tool Used to Assess Studies[11]

1. Was the spectrum of patients representative of the patients who will receive the test in practice? (Assessment of spectrum bias)
2. Were selection criteria clearly described?
3. Is the reference standard likely to correctly classify the target condition?
4. Is the period between the reference standard and index test short enough to be reasonably sure that the target condition did not change between the 2 tests? (Assessment of disease progression bias)
5. Did the entire sample, or a random selection of the sample, receive verification by using the reference standard of diagnosis? (Assessment of primary selection bias)
6. Did patients receive the same reference standard regardless of the index test result? (Assessment of differential verification bias)
7. Was the reference standard independent of the index test (ie, the test did not form part of the reference standard)? (Assessment of incorporation bias)
8. Was the execution of the index test described in sufficient detail to permit replication of the test?
9. Was the execution of the reference standard described in sufficient detail to allow its replication?
10. Were the index test results interpreted without knowledge of the results of the reference standard?
11. Were the reference standard results interpreted without knowledge of the results of the index test?
12. Were the same clinical data available when test results were interpreted as would be available when the test is used in practice?
13. Were uninterpretable/intermediate test results reported?
14. Were withdrawals from the study explained?

On-line Table 1: Study characteristics: Baseline demographic data and disease characteristics of studies included in the systematic review

Study First Author and Year	Study Design	No. of Patients Analyzed	No. of Patients with DCI	No. of Patients without DCI	Mean Age (SD)	Male (%)	Admission Disease Severity (DCI Group)	Admission Disease Severity (Non-DCI Group)	No. (Percentage) Coiled (DCI)	No. (Percentage) Coiled (Non-DCI)	No. (Percentage) Clipped (DCI)	No. (Percentage) Clipped (non-DCI)	If DCI, Median Day of Clinical Deterioration
Harrigan et al, 2005[23]	Prospective	10	7	3	52.5	30%	Good (HH, 2.22)	Good (HH, 2.33)	5 (71%)	3 (100%)	1 (14.3%)	0 (0%)	5
Sviri et al, 2006[24]	Prospective	46	24	22	50.2	41%	Good (HH, 2.8)		14 (30%)		32 (69%)		N/A
van der Schaaf et al, 2006[12]	Prospective	69	20	49	54.9	22%	Good (WFNS, 2.27)		24 (50%)		36 (52% all)		N/A
Pham et al, 2007[25]	Prospective	38	14	24	50.4	Unknown	Good (HH, 2.36)		Unknown				
Dankbaar et al, 2010[13]	Prospective	85	50	35	55.82 (weighted average of median DCI and non-DCI)	28.00%	Good (WFNS, 2.66)	Good (WFNS, 1.62)	27 (54%)	14 (40%)	23 (46%)	20 (57%)	6
Sanelli et al, 2011[14]	Prospective	97	40	57	49	27%	Poor (HH, 3.125)	Good (HH, 2.42)	20 (50%)	24 (42%)	20 (50%)	33 (58%)	7

Note:—HH indicates Hunt and Hess; NA, not available; SD, standard deviation; WFNS, World Federation of Neurosurgical Societies.

On-line Table 2: Summary of CTP technique and DCI outcome definition used in each study

Study First Author and Year	Time during CTP Performance (before Symptoms, during Symptoms or Both)	CTP Data Analyzed Quantitatively, Qualitatively, or Both?	CTP Postprocessing Software Vendor?	CTP Postprocessing Algorithm?	Definition of Abnormal CTP Test Result or Best Parameter	Definition of DCI	Did the Study Measure "Clinical Deterioration" as an Outcome?	Did the Study Measure CT or MRI Infarction as a DCI Outcome?	Did the Study Measure Functional Disability as an Outcome?
Harrigan et al, 2005[23]	Symptoms	Both	Siemens	Maximum slope model	Based on clinical/CTP results and decision made by authors	Symptomatic deterioration not explained by other causes.	Y	N	N
Sviri et al, 2006[24]	Unknown	Quantitatively	GE Healthcare	Deconvolution	MTT > 6.5 s	GCS ↓ by 2 points for ≥30 minutes with altered level of consciousness and new hemiplegia or hemiparesis or ↓ 2 points in the muscle scale in previously hemiparetic patients after other possibilities excluded.	Y	N	N
van der Schaaf et al, 2006[12]	Unknown	Quantitatively	Philips	Deconvolution	Unknown	Probable DCI (↓ 1 point on GCS without other explanations), definite DCI (probable DCI + infarction)	Y	Y	N
Pham et al, 2007[25]	Both	Both	Siemens	Maximum slope model	Prolonged TTP	Secondary cerebral infarction	N	Y	N
Dankbaar et al, 2010[13]	Symptoms	Quantitatively	Philips	Deconvolution	N/A	Retrospectively, after exclusion of other causes	Y	N	N
Sanelli et al, 2011[14]	Both	Both	GE Healthcare	Deconvolution	Focal deficits with prolonged MTT or decreased CBF	Multistage reference standard[28,29]	Y	Y	Y

Note:—GE indicates General Electric; GCS, Glasgow Coma Scale.