

Spontaneous Subarachnoid and Intracerebral Hemorrhage

Jeffrey L. Hackman
Anna M. Nelson
O. John Ma

REFERENCES

- Al-Shahi R, White PM, et al: Subarachnoid hemorrhage. *BMJ* 333: 235, 2006. [PMID: 16960219]
- Sadasivan C, Fiorella DJ, Woo H: Physical factors effecting cerebral aneurysm pathophysiology. *Ann Biomed Eng* 41: 1347, 2013. [PMID: 23549899]
- Juvela S, Porras M, Poussa K: Natural history of unruptured intracranial aneurysms: probability of and risk factors for aneurysm rupture. *J Neurosurg* 108: 1052, 2008. [PMID: 18447733]
- Linn FHH, Wijdicks EFM, van der Graaf Y, et al: Prospective study of sentinel headache in aneurysmal subarachnoid hemorrhage. *Lancet* 344: 590, 1994. [PMID: 7914965]
- Landtblom AM, Fridriksson S, Boivie J, Hillman J, Johansson G, Johansson I: Sudden onset headache: a prospective study of features, incidence, and causes. *Cephalgia* 22: 354, 2002. [PMID: 12110111]
- Edlow JA, Caplan LR: Avoiding pitfalls in the diagnosis of subarachnoid hemorrhage. *N Engl J Med* 342: 29, 2000. [PMID: 10620647]
- Vermeulen MJ, Schull MJ: Missed diagnosis of subarachnoid hemorrhage in the emergency department. *Stroke* 38: 1216, 2007. [PMID: 17322078]
- Kowalski RG, Claassen J, Kreiter KT, et al: Initial misdiagnosis and outcome after subarachnoid hemorrhage. *JAMA* 291: 866, 2004. [PMID: 14970066]
- Edlow JA, Panagos PD, Godwin SA, et al: Clinical policy: critical issues in the evaluation and management of adult patients presenting to the emergency department with acute headache. *Ann Emerg Med* 52: 407, 2008. [PMID: 18809105]
- Perry JJ, Steill IG, Sivilotti M, et al: Sensitivity of computed tomography performed within six hours of onset of headache for diagnosis of subarachnoid haemorrhage: prospective cohort study. *BMJ* 343: 4277, 2011. [PMID: 21768192]
- Cortnum S, Sorenson P, Jorgenson J: Determining the sensitivity of computed tomography scanning in early detection of subarachnoid hemorrhage. *Neurosurgery* 66: 900, 2010. [PMID: 20404693]
- Gee C, Dawson M, Bledsoe J, et al: Sensitivity of newer-generation computed tomography scanners for subarachnoid hemorrhage: a Bayesian analysis. *J Emerg Med* 43: 13, 2012. [PMID: 22326408]
- Farzad A, Radin B, Oh JS, et al: Emergency diagnosis of subarachnoid hemorrhage: an evidence-based debate. *J Emerg Med* 44: 1045, 2013. [PMID: 23352866]
- Carstairs SD, Tanen DA, Duncan TD, et al: Computed tomographic angiography for the evaluation of aneurysmal subarachnoid hemorrhage. *Acad Emerg Med* 13: 486, 2006. [PMID: 16551778]
- McCormack RE, Hutson A: Can computed tomography angiography of the brain replace lumbar puncture in the evaluation of acute-onset headache after a negative contrast cranial computed tomography scan? *Acad Emerg Med* 17: 444, 2010. [PMID: 20370785]
- Edlow JA: What are the unintended consequences of changing the diagnostic paradigm for subarachnoid hemorrhage after brain computed tomography to computed tomographic angiography in place of lumbar puncture? *Acad Emerg Med* 17: 991, 2010. [PMID: 20836782]
- Pierot L, Portefaix C, Rodriguez-Regent C, et al: Role of MRA in the detection of intracranial aneurysm in the acute phase of subarachnoid hemorrhage. *J Neuroradiol* 13: S0150, 2013. [PMID: 23664329]
- da Rocha AJ, da Silva CJ, Gama HP, et al: Comparison of magnetic resonance imaging sequences with computed tomography to detect low-grade subarachnoid hemorrhage. *J Comput Assist Tomog* 30: 295, 2006. [PMID: 16628051]
- Morgenstern LB, Luna-Gonzales H, Huber JC, et al: Worst headache and subarachnoid hemorrhage: prospective, modern computed tomography and spinal fluid analysis. *Ann Emerg Med* 32: 297, 1998. [PMID: 9737490]
- Schofield MLA, Lorenz E, Hodgson TJ, Yates S, Griffiths PD: How well do we investigate patients with suspected subarachnoid hemorrhage? The continuing need for cerebrospinal fluid investigations. *Postgrad Med J* 80: 27, 2004. [PMID: 14760176]
- Sidman R, Spitalnic S, Demelis M, Durfey N, Jay G: Xanthochromia? By what method? A comparison of visual and spectrophotometric xanthochromia. *Ann Emerg Med* 46: 51, 2005. [PMID: 15988426]
- Chalmers AH, Kiley M: Detection of xanthochromia in cerebrospinal fluid. *Clin Chem* 44: 1740, 1998. [PMID: 9702963]
- Shah KH, Richard KM, Nicholas S, Edlow JA: Incidence of traumatic lumbar puncture. *Acad Emerg Med* 10: 151, 2003. [PMID: 12574013]
- Heasley DC, Mohamed MA, Yousem DA: Clearing of red blood cells in lumbar puncture does not rule out ruptured aneurysm in patients with suspected subarachnoid hemorrhage but negative head CT findings. *Am J Neuroradiol* 26: 820, 2005. [PMID: 15814927]
- Czuczman AD, Thomas L, Boulanger A, et al: Interpreting red blood cells in lumbar puncture: distinguishing true subarachnoid hemorrhage from traumatic tap. *Acad Emerg Med* 20: 247, 2013. [PMID: 23517256]
- Perry JJ, Spacek A, Forbes M, et al: Is the combination of negative computed tomography result and negative lumbar puncture result sufficient to rule out subarachnoid hemorrhage? *Ann Emerg Med* 51: 707, 2008. [PMID: 18191293]
- Neeraj N, Stevens R, Mirski M, Bhardwaj A: Controversies in the management of aneurysmal subarachnoid hemorrhage. *Crit Care Med* 34: 511, 2006. [PMID: 16424735]
- Morgenstern LB, Hemphill JC III, Anderson C, et al: Guidelines for the management of spontaneous intracerebral hemorrhage: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke* 41: 2108, 2010. [PMID: 20651276]
- Woloszyn AV, McAllen KJ, Figueroa BE, DeShane RS, Barletta JF: Retrospective evaluation of nicardipine versus labetalol for blood pressure control in aneurysmal subarachnoid hemorrhage. *Neurocrit Care* 16: 376, 2012. [PMID: 22528277]
- Ortega-Gutierrez S, Thomas J, Reccius A, et al: Effectiveness and safety of nicardipine and labetalol infusion for blood pressure management in patients with intracerebral and subarachnoid hemorrhage. *Neurocrit Care* 18: 13, 2012. [PMID: 23055089]
- Harrigan MR, Rajneesh KF, Ardel AA, Fisher WS 3rd: Short-term antifibrinolytic therapy before early aneurysm treatment in subarachnoid hemorrhage: effects on rehemorrhage, cerebral ischemia, and hydrocephalus. *Neurosurgery* 67: 935, 2010. [PMID: 20881558]
- Guo J, Shi Z, Yang K, et al: Endothelin receptor antagonists for subarachnoid hemorrhage. *Cochrane Database Syst Rev* 9: CD008354, 2012. [PMID: 22972119]
- Vergouwen MD, Algra A, Rinkel GJ: Endothelin receptor antagonists for aneurysmal subarachnoid hemorrhage: a systematic review and meta-analysis update. *Stroke* 43: 2671, 2010. [PMID: 22871682]
- Dorhout Mees SM, Algra A, Vandertop WP, et al: Magnesium for aneurysmal subarachnoid haemorrhage (MASH-2): a randomized placebo-controlled trial. *Lancet* 380: 44, 2012. [PMID: 22633825]
- Tseng MY: Summary of evidence on immediate statins therapy following aneurysmal subarachnoid hemorrhage. *Neurocrit Care* 15: 298, 2011. [PMID: 21826581]
- Macdonald RL, Higashida RT, Keller E, et al: Randomised trial of clozapentan, an endothelin receptor antagonist, in patients with aneurysmal subarachnoid hemorrhage undergoing surgical clipping (CONSCIOUS-2). *Acta Neurochir Suppl* 115: 27, 2013. [PMID: 22890639]
- Edlow JA, Samuels O, Smith WS, Weingart SD: Emergency neurological life support: subarachnoid hemorrhage. *Neurocrit Care* 17: 47, 2012. [PMID: 22932990]
- American College of Emergency Physicians: Clinical policy: critical issues in the evaluation and management of patients presenting to the emergency department with acute headache. *Ann Emerg Med* 39: 108, 2002. [PMID: 11782746]
- Flaherty ML, Haverbusch M, Sekar P, et al: Long-term mortality after intracerebral hemorrhage. *Neurology* 66: 1182, 2006. [PMID: 16636234]
- Smeeton N, Heuschmann P, Rudd AG, et al: Incidence of hemorrhagic stroke in black Caribbean, black African, and white populations. *Stroke* 38: 3133, 2007. [PMID: 17962604]
- <http://www.fda.gov/drugs/drugsafety/ucm282724.htm> (FDA Drug Safety Communication: Safety review of post-market reports of serious bleeding events with the anticoagulant Pradaxa [dabigatran etexilate mesylate] safety announcement 12/7/2011.) Accessed June 7, 2013.
- Kurth T, Kase C, Berger K, et al: Smoking and the risk of hemorrhagic stroke in men. *Stroke* 34: 1151, 2003. [PMID: 12663877]
- Zhu XL, Chan MSY, Poon WS: Spontaneous intracranial hemorrhage: which patients need diagnostic cerebral angiography? A prospective study of 206 cases and review of the literature. *Stroke* 28: 1406, 1997. [PMID: 9227692]
- Witsch J, Neugebauer H, Zweckberger K, Jüttler E: Primary cerebellar haemorrhage: complications, treatment and outcome. *Clin Neurol Neurosurg* 115: 863, 2013. [PMID: 23659765]
- Anderson CS, Heeley E, Huang Y, et al and the INTERACT2 Investigators: Rapid blood-pressure lowering in patients with acute intracerebral hemorrhage. *N Engl J Med* 368: 2355, 2013. [PMID: 23713578]
- Mayer SA, Brun NC, Begtrup K, et al: Efficacy and safety of recombinant activated factor VII for acute intracerebral hemorrhage. *N Engl J Med* 358: 2127, 2008. [PMID: 18480205]
- Dowlatabadi D, Butcher KS, Asdaghi N, et al: Poor prognosis in warfarin-associated intracranial hemorrhage despite anticoagulation reversal. *Stroke* 43: 1812, 2012. [PMID: 22556194]

USEFUL WEB RESOURCES

Internet Stroke Center, Washington University in St. Louis—<http://www.strokecenter.org/>
National Institutes of Health, National Institute of Neurological Disorders and Stroke—<http://www.ninds.nih.gov/disorders/stroke/stroke.htm>