Medical Xpress

Conservative management of vascular abnormality in brain associated with better outcomes

April 22 2014

Patients with arteriovenous malformations (abnormal connection between arteries and veins) in the brain that have not ruptured had a lower risk of stroke or death for up to 12 years if they received conservative management of the condition compared to an interventional treatment, according to a study in the April 23/30 issue of *JAMA*, a neurology theme issue.

Interventional treatment for brain arteriovenous malformations (bAVMs) with procedures such as neurosurgical excision, endovascular embolization, or stereotactic radiosurgery can be used alone or in combination to attempt to obliterate bAVMs. Because interventions may have complications and the untreated clinical course of unruptured bAVMs can be benign, some patients choose conservative management (no intervention). Guidelines have endorsed both intervention and conservative management for unruptured bAVMs. Whether conservative management is superior to interventional treatment for unruptured bAVMs is uncertain because of the lack of long-term experience, according to background information in the article.

Rustam Al-Shahi Salman, Ph.D., of the University of Edinburgh, Scotland, and colleagues with the Scottish Audit of Intracranial Vascular Malformations Collaborators, studied 204 residents of Scotland (16 years of age or older) who were first diagnosed as having an unruptured bAVM during 1999-2003 or 2006-2010 and followed over time. The

researchers analyzed the outcomes for patients who received conservative management (no intervention; medications for seizures) or an intervention (any endovascular embolization, neurosurgical excision, or stereotactic radiosurgery alone or in combination).

Of the 204 patients, 103 underwent some type of intervention. Those who underwent intervention were younger, more likely to have presented with seizure, and less likely to have large bAVMs than patients managed conservatively. During a median (midpoint) follow-up of 6.9 years, the rate of progression to sustained disability or death was lower with conservative management during the first 4 years of follow-up, but rates were similar thereafter. The rate of nonfatal stroke or death (due to the bAVM or intervention) was lower with conservative management during 12 years of follow-up (14 vs 38 events).

"The similarity of the results of this observational study and ARUBA [a randomized clinical trial that examined this issue] and the persistent difference between the outcome of conservative management and intervention during 12-year follow-up in our study support the superiority of conservative management to intervention for unruptured bAVMs, which may deter some patients and physicians from intervention," the authors write.

"Long-term follow-up in both this study and the ARUBA trial is needed to establish whether the superiority of conservative management will persist or change."

More information: DOI: 10.1001/jama.2014.3200

Provided by The JAMA Network Journals

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Citation: Conservative management of vascular abnormality in brain associated with better outcomes (2014, April 22) retrieved 17 April 2024 from https://medicalxpress.com/news/2014-04-vascular-abnormality-brain-outcomes.html

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