Multidisciplinary treatment of cerebral arteriovenous malformations; preliminary results in 115 consecutive patients. [Dutch]

Authors: Van Rooij W.J.J., Sluzewski M., Wijnalda D., Schellens R.L.L.A., Verhagen I.T.H.J., Karlsson B.

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Abstract:

Objective. Preliminary evaluation of the combined treatment (surgery, embolization and stereotactic gamma radiosurgery) of 115 consecutive patients with a cerebral arteriovenous malformation (AVM). Design. Retrospective. Setting. St. Elisabeth Hospital, Tilburg, the Netherlands. Patients and methods. In a 35-month period 115 consecutive patients presented with an AVM. The mean age was 41.8 years (range: 6-72). The main clinical presentation was haemorrhage in 65 patients (56.5%), seizures in 31 patients (27.0%), neurological deficit in 7 patients (6.1%) and hydrocephalus in 2 patients (1.7%); in 10 patients (8.7%) the AVM was an incidental finding. Treatment consisted of surgery, radiosurgery with the gamma knife and embolization. Embolization was mostly used to reduce the size of an AVM before surgery or radiosurgery. Results. Out of 115 patients 5 were referred for a treatment advice only and treatment was performed elsewhere. Of the remaining 110 patients 84 (76.4%) were treated and 26 (213.6%) were not treated for various reasons. Of the 84 treated patients 17 (20.2%) had surgery only, 17 (20.2%) had radiosurgery only, and 12 (14.3%) were treated with embolization only. Surgery after embolization was performed in 8 patients (9.5%) and radiosurgery after embolization in 26 patients (31.0%). In 4 patients an unusual combination of these treatment methods was used for a variety of reasons. At the time of writing 35 of 84 treated AVMs (41.7%) were completely cured, 39 patients were awaiting the definitive result of radiosurgery. Deliberate partial embolization was performed in 5 patients. In 5 patients (6.0%), the pretreatment objective was not achieved with embolization. Total permanent morbidity was 4.8% (4 patients) and

mortality was 1.2% (1 patient). Conclusion. Given a multidisciplinary combination of treatment methods a treatment is indicated and possible in the majority (76.4%) of patients with an AVM. There is a reasonable chance of a complete cure with an acceptable complication rate.