Gamma Knife Radiosurgery for Brain Vascular Malformations

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In the 40 years since radiosurgery was introduced as an option for the management of vascular malformations, an enormous volume of clinical outcome research has substantiated its role in properly selected patients. Across the world, various technologies are available to perform radiosurgery. The unifying feature of each technology is its ability to conformally deliver a high dose of radiation to a small intracranial volume with precision and selectivity (rapid fall-off of the dose in adjacent normal structures). The Gamma Knife® represents the technology most commonly used and is currently a tool available at more than 300 medical centers.

At our own center, we have recently completed a long-term analysis of almost 1,000 patients who had Gamma Knife radiosurgery for arteriovenous malformations (AVMs) during a 20-year interval. Like other centers, many of whom are represented by reports in this volume, the role of radiosurgery expanded to include carefully selected cavernous malformations and dural vascular malformations. I believe that the current volume of Progress in Neurological Surgery will provide additional data that will further define the long-term benefit and risks of radiosurgery for these often complex vascular disorders.

I hope that you will enjoy reading the work of the superb international group of individuals who work with the Gamma Knife in the management of AVMs.

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