

## EDITORIAL



**John Suh, MD, FASTRO**  
Editor-in-Chief

## Gray Matters: Advances in Brain Metastases Treatment

**B**rain metastases (BM) comprise the clear majority of intracranial neoplasms and represent one of the most controversial areas in oncology given the wide array of effective options, strong advocacy for certain treatments, and knowledge that biology influences outcomes. Despite controversies, outcomes for some patients have improved with a greater number of long-term survivors, which has increased the focus on side effects, in particular neurocognitive function. Unfortunately, the prevalence of BM is increasing, and prognosis and survival remain poor for the majority of these patients.

In this month's focus on BM, the review article, *Strategies to mitigate the effects of whole-brain radiation therapy (WBRT) on neurocognitive function in patients with brain metastases*, stresses the importance of balancing treatment approaches for tumor control and survival with preservation of neurocognitive function, a major focus of BM research and trials. Authors describe the use of hippocampal avoidance (HA)-WBRT, memantine, renin angiotensin-aldosterone system blockers, donepezil/lithium, peroxisomal proliferator-activated receptor agonists, and two ongoing cooperative group studies to test whether HA-WBRT and memantine use can decrease risk for neurocognitive decline for some patients.

For patients undergoing stereotactic radiosurgery (SRS), which has emerged as the preferred treatment for many patients with BM, *Optimization of stereotactic radiosurgery for the treatment of brain metastases* reviews methods to achieve better local control, reduced toxicity, and improved patient survival for some patients. This review article discusses the use of targeted agents, treatment planning strategies, radiation necrosis, imaging criteria, and future investigations.

We also have a paper from the University of Virginia, Charlottesville on whether SRS could result in obstructive hydrocephalus with tumor edema or progression, and if resection could minimize this risk. Results, presented in *Stereotactic radiosurgery for cerebellar metastases and the risk of obstructive hydrocephalus*, demonstrate encouraging findings that SRS is a safe treatment option following surgical resection, in properly selected patients.

In addition are the case reports, *Long-term outcome after two-stage low-dose Gamma Knife radiosurgery for large recurrent petroclival meningioma* and *Paraganglioma of the skull base treated with intensity-modulated radiation therapy*. These interesting cases will be entered into ARO's new annual Clinical Case Contest featuring a \$500 grand prize. And if you haven't heard, we have introduced a Research Article of the Year in addition to our Review Article of the Year, with grand prizes of \$1,000 each (details at <http://appliedradiationoncology.com/contests>).

As always, we look forward to your submissions and suggestions for topics, as we want *Applied Radiation Oncology* to be a journal that you look forward to reading in print or online. I hope you enjoy the March issue and its focus on brain metastases!

**Dr. Suh** is the editor-in-chief of Applied Radiation Oncology, and professor and chairman, Department of Radiation Oncology at the Taussig Cancer Institute, Rose Ella Burkhardt Brain Tumor and Neuro-oncology Center, Cleveland Clinic, Cleveland, OH.