INTERVIEW

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Dr Weingart is Professor of Neurosurgery and Oncology at Johns Hopkins School of Medicine in Baltimore, Maryland.

Tracks 1-9

Track 1 **Case discussion:** A 55-year-old man with GBM undergoes gross total resection with adjunctive carmustine wafer followed by chemoradiation therapy

Track 2 Implementation of the carmustine wafer implantation

Track 3 Challenges of carmustine wafer implantation in the community setting

Track 4 **Case discussion:** A 63-year-old man with recurrent GBM receives combination therapy with bevacizumab and temozolomide

Track 5 Pace and duration of clinical benefit with bevacizumab in recurrent GBM

Track 6 **Case discussion:** A 58-year-old man with GBM undergoes gross total resection and radiation therapy and is diagnosed with a quiescent tumor after undergoing a second neurosurgical resection six months later

Track 7 Clinical significance of quiescent tumors

Track 8 Global improvement in GBM survival during the past two decades

Track 9 Role of neurosurgery versus radiation therapy in patients with brain metastases

Select Excerpts from the Interview

Tracks 1-3

DR LOVE: How do you approach the use of BCNU (carmustine) wafer implants for the treatment of GBM?

DR WEINGART: At our institution, if we know that the likelihood is high in terms of obtaining a gross total resection of the enhancing tumor at surgery, we discuss the use of carmustine wafers with the patient before surgery.

In the retrospective study of carmustine wafers, among patients who received carmustine wafers followed by concomitant temozolomide and radiation therapy and then temozolomide alone for six months, the median survival was approximately 21 months (McGirt 2009).

DR LOVE: Would you describe the technical procedure involved in the implantation?

DR WEINGART: It's quite straightforward. The wafers look like little disks the shape and size of a dime. The surgeon places them along the wall of the tumor cavity and then applies Surgicel® to hold them laterally against the tumor cavity wall. Altogether the procedure is accomplished in approximately 10 minutes, and hemostasis has already occurred.

Certain nuances must be considered when implanting the wafers. A small incision in the brain may expand into a large cavity — this is not the best case. The best-case scenario is a resection cavity that resembles the shape of an ice cream scoop.

Ideally, you have a wide opening on the surface to facilitate the implantation. You're not causing bleeding by inserting them. Also, an inflammatory response occurs around the wafers. When an inflammatory response is hindered due to closure of the cortical surface, increased swelling and a need for extended use of steroids may occur.

DR LOVE: Have you observed any other complications — for example, any systemic chemotherapy-type effects?

DR WEINGART: No measurable carmustine is detectable in the bloodstream. The agent is all localized. The infection risk is no different than that associated with surgery without the use of carmustine wafers. It's good to have a dural closure that's fairly tight because wound healing in the different randomized studies has been an issue in patients with leaking spinal fluid. It is not known whether this is associated with the carmustine in the spinal fluid.

DR LOVE: How often are carmustine wafers used in community-based practice? This doesn't seem to be a commonly used treatment.

DR WEINGART: That is correct. Part of the reason is that you must discuss the use of carmustine wafers with the patient before surgery. My guess is that neurosurgeons in community practice are not following up with these patients after surgery, when the patients are referred to their oncologists.

Track 5

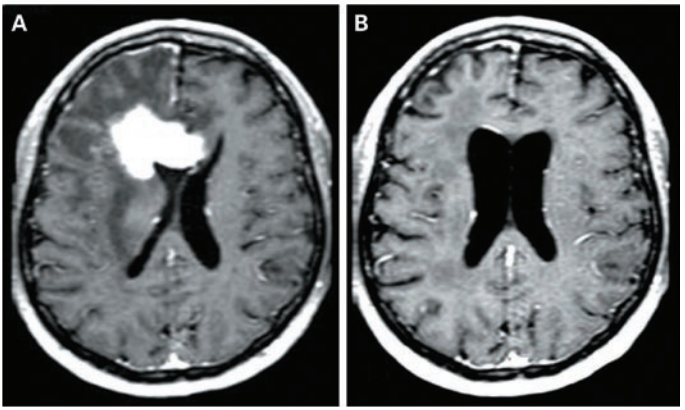
DR LOVE: What have you observed with bevacizumab in the treatment of GBM?

DR WEINGART: The use of bevacizumab improves MRI scans (3.1), and patients are able to receive lower doses of steroids, which improves their quality of life. Patients feel better, and sometimes their neurological deficits improve. It's a short-term benefit lasting three to six months at best. Then, when the tumor progresses, symptom progression often occurs before disease progression is noted on MRI. Of course, if bevacizumab is stopped, the MRI often rapidly appears abnormal.

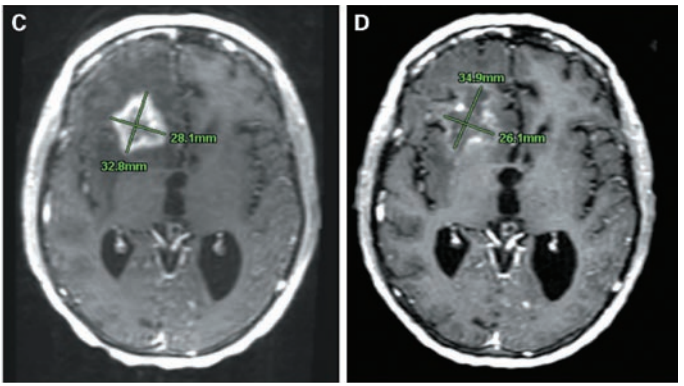
We tend to continue the use of bevacizumab in the setting of disease progression if symptoms are worsening or if the flare abnormality worsens. If you pull back on bevacizumab, patients may experience disease progression quickly. ■

3.1

MRI-Documented Response to Treatment with Bevacizumab* in Patients with Recurrent Glioblastoma



Patient 1: (A) Before treatment; (B) After three months of treatment without concomitant corticosteroid therapy



Patient 2: (C) Before treatment; (D) Partial response by Levin criteria versus stable disease by cross-sectional diameters (Macdonald criteria)

* Patients received bevacizumab 10 mg/kg every 14 days on a 28-day cycle.

Kreisl TN et al. *J Clin Oncol* 2009;27(5):740-5.

SELECT PUBLICATIONS

Kreisl TN et al. **Phase II trial of single-agent bevacizumab followed by bevacizumab plus irinotecan at tumor progression in recurrent glioblastoma.** *J Clin Oncol* 2009;27(5):740-5.

McGirt MJ et al. **Gliadel (BCNU) wafer plus concomitant temozolomide therapy after primary resection of glioblastoma multiforme.** *J Neurosurg* 2009;110(3):583-8.