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FOREWORD

Low grade glioma guidelines: Foreword

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In 1994, charged by the Guideline and Outcomes Committee of the Joint Section on Tumors, a multidisciplinary group of clinicians including neurosurgeons, neurologists, neuro-oncologists and radiation oncologists gathered to review the available literature and develop a set of guidelines for the management of patients with low grade gliomas [1]. At that time the methodology required that selected publications on this topic, as determined by a Medline search of published articles between 1966 and 1994, be sorted into three categories:

Class I	Evidence provided by one or more well-designed, randomized, controlled clinical trials
Class II	Evidence provided by one or more well-designed clinical studies such as case control or cohort studies
Class III	Evidence provided by expert opinions, nonrandomized historical controls, or case reports of one or more patients

The committee carefully reviewed all articles and chose to review those that fit appropriately into each category. Articles in each category were eliminated from further review if the design and methodology sections were not rigorous and therefore might have led to results that could be called into question. The conclusions of the selected articles were then allocated into three categories of practice parameters:

Standards	Generally accepted principles for patient management that reflect a high degree of clinical certainty (based on Class I evidence or, when circumstances preclude randomized controlled clinical trials, overwhelming Class II studies that directly addresses the questions at hand or from decision that directly addresses all the issues),
Guidelines	Recommendations for patient management that may identify a particular strategy or range of management strategies and that reflect a moderate clinical certainty (based on Class II evidence that directly addresses the issue, decision analysis that directly addresses the issue, or strong consensus of Class III evidence),
Practice Options	Other strategies for patient management for which there is unclear clinical certainty (based on inconclusive or conflicting evidence or opinion).

Of 2624 citations, 59 were reviewed and determined to be sufficiently rigorous in design and methodology to be categorized and serve as the basis for the final management recommendations. The only management recommendation supported by high quality Class I evidence was to obtain a pathological diagnosis when a decision to treat a patient with a presumed low grade glioma was made, because there was no other way to be certain of the diagnosis despite the availability of sophisticated MRI imaging. All other clinical recommendations including whether or not to observe patients without intervention, whether or not to

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attempt radical removal of tumor, or whether or not to recommend post-operative radiation were supported by only Class III evidence and, therefore, were considered as treatment options.

Since this original guidelines effort, many publications from highly respected and experienced groups have appeared in the literature. Significant developments in radiological imaging have allowed us to evaluate not only the overall metabolic activity of brain tumors but also the metabolic heterogeneity within a given tumor. Other radiological developments now allow us to image critical neurologic pathways as they extend from the cerebral cortex to the spinal cord. We can now image intra-operatively the relationships between these pathways and the tumor itself, thereby providing an opportunity to remove the tumors with predictably lower patient morbidities. Additionally, intra-operative cortical mapping, now commonplace, gives surgeons the best chance to identify eloquent cortex surrounding tumors and thereby avoid additional patient morbidity. Intra-operative MRI and other techniques give us the ability to be more certain that the tumor has truly been removed to the greatest extent possible. Although extent of resection has repeatedly been noted to be a strong and independent factor associated with improved survival, it remains unsupported by high quality evidence. Radiation therapy remains an accepted post-operative management strategy for many patients and advances in our understanding of radiation and tumor biology, coupled with our ability to deliver focused high dose radiation, have possibly improved patient outcomes. Adjuvant chemotherapy, although not considered a treatment option for these patients in 1994, has become a treatment option. New research frontiers are exploring the possibility of capitalizing on the knowledge obtained on the molecular basis of LGG, to develop individualized treatments.

It will be the responsibility for all members of brain tumor patient care teams to carefully assess and report clinical results from properly conducted studies in the contemporary literature as time passes. Only in this way will the path to truly excellent clinical understanding and patient outcomes become clear.

Now, almost twenty years since the original effort, Drs. Olson, Ryken, Linskey and Kalkanis, and their team, have reviewed the literature and updated the guidelines. The preparation of guidelines is a tedious and relatively challenging process and many feel that evidence-based recommendations are obvious, not warranting such an exhaustive effort. There is, however, much to be gained. Ultimately, the purpose of a diligently researched, tediously categorized and carefully conceived set of guidelines is not only to serve as a constant source of reliable and critical information for practitioners, but to also place emphasis on scientifically and clinically important literature in order to inform change and improve patient outcomes.

Reference

1. Neurosurg Focus (1998) Article 10 4(6)