Guideline Summary NGC-9410

Guideline Title

Anaplastic astrocytomas and oligodendrogliomas.

Bibliographic Source(s)

Alberta Provincial CNS Tumour Team. Anaplastic astrocytomas and oligodendrogliomas. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2012 Sep. 14 p. (Clinical practice guideline; no. CNS-002). [56 references]

Guideline Status

This is the current release of the guideline.

Scope

Disease/Condition(s)

Anaplastic astrocytomas and oligodendrogliomas

Note: For this guideline, the term "anaplastic gliomas" refers only to World Health Organization (WHO) grade III astrocytomas and oligodendrogliomas. Ependymomas and glioblastoma are each addressed in separate reports.

Guideline Category

Management

Treatment

Clinical Specialty

Neurological Surgery

Neurology

Oncology

Pathology

Radiation Oncology

Surgery

Intended Users

Physicians

Guideline Objective(s)

To evaluate resection versus biopsy and the optimal radiation therapy and chemotherapy strategies for the management and treatment of World Health Organization (WHO) grade III gliomas

Target Population

Adults over the age of 18 years with suspected or confirmed anaplastic astrocytomas or oligodendrogliomas

Note: Different principles may apply to pediatric patients.

Interventions and Practices Considered

1. Surgery (maximal resection; second resection after initial biopsy)
2. Adjuvant radiation therapy following surgery (external beam radiation therapy using three-dimensional [3D] conformal planning techniques)
3. Participation in ongoing clinical trials of postoperative adjuvant chemotherapy
4. Postoperative treatment with temozolomide combined with radiotherapy, followed by monthly temozolomide to a maximum of six cycles

5. Genetic testing for loss of heterozygosity on chromosomes 1p and 19q
6. Adjuvant radiotherapy alone for elderly patients with a poor performance status

Major Outcomes Considered

- Overall survival
- Response rate
- Time to progression
- Toxicity of radiation and chemotherapy

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Research Questions

Specific research questions to be addressed by the guideline document were formulated by the guideline lead(s) and Knowledge Management (KM) Specialist using the PICO question format (patient or population, intervention, comparisons, outcomes).

Guideline Questions

1. Is resection better than biopsy in the management of World Health Organization (WHO) grade III gliomas?
2. What is the optimal radiation therapy plan for WHO grade III gliomas?
3. What is the role of radiation and chemotherapy in the adjuvant treatment of WHO grade III gliomas?

Search Strategy

Medical journals were searched using the Medline (1950 to December Week 2, 2009), EMBASE (1980 to December Week 2, 2009), Cochrane Database of Systematic Reviews (3rd Quarter, 2009), and PubMed databases. The search terms included Glioma [MeSH heading], Brain Neoplasms [MeSH heading], Astrocytoma [MeSH heading], Oligodendroglioma [MeSH heading], high-grade gliomas, anaplastic gliomas, practice guidelines, systematic reviews, meta-analyses, randomized controlled trials, and clinical trials. The references and bibliographies of articles identified through these searches were scanned for additional sources. Articles were excluded from the review if they: had a non-English abstract, were not available through the library system, were case studies involving less than 10 patients, involved pediatric patients, involved glioblastoma as the only high-grade glioma, or were published prior to the year 2000. All retrieved articles were graded using the criteria outlined by Lau et al.

For the 2012 update of this guideline, the following search strategy was used in Medline and PubMed: glioma [MeSH term] OR astrocytoma [MeSH tem] OR oligodendroglioma [MeSH term] OR high-grade glioma (keyword) OR anaplastic glioma (keyword) limited to clinical trials, practice guidelines, systematic reviews and meta-analyses involving humans published in English from 2009 to present (June 26, 2012). Articles were excluded if they were case studies involving less than 10 patients, involved pediatric patients, or less of than 50% of the patients had anaplastic gliomas.

A search for new or updated clinical practice guidelines published from January 2000 to December 2009 was also conducted, and yielded eight published guidelines by the following organizations: Cancer Care Ontario (CCO), the British Columbia Cancer Agency (BCCA), Cancer Care Nova Scotia (CCNS), the National Comprehensive Cancer Network (NCCN), the National Cancer Institute (NCI), the National Institute for Health and Clinical Excellence (NICE), the Australian Cancer Network, and the European Society for Medical Oncology (ESMO).

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Not stated

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Evidence was selected and reviewed by a working group comprised of members from the Alberta Provincial CNS Tumour Team and a Knowledge Management (KM) Specialist from the Guideline Utilization Resource Unit (GURU). A detailed description of the methodology followed during the guideline development process can be found in the Guideline

description of the methodology followed during the guideline development process can be found in the Guideline Utilization Resource Unit Handbook (see the "Availability of Companion Documents" field).

Evidence Tables

Evidence tables containing the first author, year of publication, patient group/stage of disease, methodology, and main outcomes of interest are assembled using the studies identified in the literature search. Existing guidelines on the topic are assessed by the KM Specialist using portions of the Appraisal of Guidelines Research and Evaluation (AGREE) II instrument (http://www.agreetrust.org) and those meeting the minimum requirements are included in the evidence document. Due to limited resources, GURU does not regularly employ the use of multiple reviewers to rank the level of evidence; rather, the methodology portion of the evidence table contains the pertinent information required for the reader to judge for himself the quality of the studies.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Formulating Recommendations

The working group members formulate the guideline recommendations based on the evidence synthesized by the Knowledge Management (KM) Specialist during the planning process, blended with expert clinical interpretation of the evidence. As detailed in the Guideline Utilization Resource Unit Handbook (see the "Availability of Companion Documents" field), the working group members may decide to adopt the recommendations of another institution without any revisions, adapt the recommendations of another institution or institutions to better reflect local practices, or develop their own set of recommendations by adapting some, but not all, recommendations from different guidelines.

The degree to which a recommendation is based on expert opinion of the working group and/or the Provincial Tumour Team members is explicitly stated in the guideline recommendations. Similar to the American Society of Clinical Oncology (ASCO) methodology for formulating guideline recommendations, the Guideline Utilization Resource Unit (GURU) does not use formal rating schemes for describing the strength of the recommendations, but rather describes, in conventional and explicit language, the type and quality of the research and existing guidelines that were taken into consideration when formulating the recommendations.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

This guideline was reviewed and endorsed by the Alberta Provincial CNS Tumour Team.

When the draft guideline document is completed, revised, and reviewed by the Knowledge Management Specialist and the working group members, it is sent to all members of the Provincial Tumour Team for review and comment. The working group members then make final revisions to the document based on the received feedback, as appropriate. Once the guideline is finalized, it is officially endorsed by the Provincial Tumour Team Lead and the Executive Director of Provincial Tumour Programs.

Recommendations

Major Recommendations

1. Surgery is the initial recommended approach in patients with radiographically suspected anaplastic gliomas for debulking, clinical improvement and pathologic diagnosis/tumour banking. Whenever possible, safe, maximal resection is preferred in the management of anaplastic gliomas. In some cases, a second resection may be indicated after initial biopsy.

2. Adjuvant radiation therapy is the standard of care for anaplastic gliomas following surgery. External beam radiation therapy should be given in standard fractionation to a maximum total dose of 59.4 to 60 Gy using three-dimensional (3D) conformal planning techniques. The volume treated should be partial brain irradiation and not whole brain irradiation. There is no strong evidence to recommend a total dose greater than 60 Gy in standard fractionation, and alternative fractionation schedules have not proven to be more beneficial.

3. Whenever possible, patients with anaplastic gliomas should be considered for participation in ongoing clinical trials of postoperative adjuvant chemotherapy.

4. In the absence of a clinical trial, postoperative treatment with temozolomide combined with radiotherapy, followed by monthly temozolomide to a maximum of six cycles, may be considered.

5. Whenever possible, genetic testing for loss of heterozygosity on chromosomes 1p and 19q should be obtained for all patients with tumours that have oligodendroglial features, in order to improve diagnostic accuracy and prognostic prediction.

6. For elderly patients with a poor performance status, consideration may be given to adjuvant radiotherapy alone.

Clinical Algorithm(s)

Clinical Algorithm(s)

None provided

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate management and treatment of patients with anaplastic astrocytomas and oligodendrogliomas using surgery, radiation and chemotherapy

Potential Harms

Toxicity of radiation and chemotherapy (principally hematologic and neurologic toxicity) and complications of surgery

Qualifying Statements

Qualifying Statements

The recommendations contained in this guideline are a consensus of the Alberta Provincial CNS Tumour Team and are a synthesis of currently accepted approaches to management, derived from a review of relevant scientific literature. Clinicians applying these guidelines should, in consultation with the patient, use independent medical judgment in the context of individual clinical circumstances to direct care.

Implementation of the Guideline

Description of Implementation Strategy

- Present the guideline at the local and provincial tumour team meetings and weekly rounds.
- Post the guideline on the Alberta Health Services website.
- Send an electronic notification of the new guideline to all members of Alberta Health Services, Cancer Care.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

Alberta Provincial CNS Tumour Team. Anaplastic astrocytomas and oligodendrogliomas. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2012 Sep. 14 p. (Clinical practice guideline; no. CNS-002). [56 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2012 Sep

Guideline Developer(s)

Alberta Health Services, Cancer Care - State/Local Government Agency [Non-U.S.]

Source(s) of Funding

Alberta Health Services, Cancer Care

Guideline Committee

Alberta Provincial CNS Tumour Team

Composition of Group That Authored the Guideline

Not stated

Financial Disclosures/Conflicts of Interest

Participation of members of the Alberta Provincial CNS Tumour Team in the development of this guideline has been voluntary and the authors have not been remunerated for their contributions. There was no direct industry involvement in the development or dissemination of this guideline. Alberta Health Services, Cancer Care recognizes that although industry support of research, education and other areas is necessary in order to advance patient care, such support may lead to potential conflicts of interest. Some members of the Alberta Provincial CNS Tumour Team are involved in research funded by industry or have other such potential conflicts of interest. However the developers of this guideline are satisfied it was developed in an unbiased manner.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the Alberta Health Services Web site.

Availability of Companion Documents

The following is available:

- Guideline utilization resource unit handbook. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2011 Dec. 5 p. Electronic copies: Available in Portable Document Format (PDF) from the Alberta Health Services Web site.

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on December 31, 2012. The information was verified by the guideline developer on February 5, 2013.

Copyright Statement

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