



Guideline Summary NGC-8707

Guideline Title

Glioblastoma.

Bibliographic Source(s)

Alberta Provincial CNS Tumour Team. Glioblastoma. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2010 Feb. 14 p. (Clinical practice guideline; no. CNS-001). [68 references]

Guideline Status

This is the current release of the guideline.

Scope

Disease/Condition(s)

Glioblastoma (GBM)

Guideline Category

Management

Treatment

Clinical Specialty

Neurological Surgery

Oncology

Radiation Oncology

Intended Users

Advanced Practice Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To develop an updated, evidence-based guideline for the management of patients with glioblastoma

Target Population

Adults over the age of 18 years

Interventions and Practices Considered

1. Surgery
2. Chemotherapy (temozolomide)
3. External beam radiation (partial brain irradiation)
4. Determination of O⁶-methylguanine–DNA methyltransferase (MGMT) gene promoter methylation status

Major Outcomes Considered

- Survival
- Quality of life

Methodology

Methods Used to Collect/Select the Evidence

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

- Is resection better than biopsy for patients with glioblastoma?
- Is adjuvant chemotherapy beneficial for patients with glioblastoma?
- Is adjuvant chemotherapy of benefit to elderly patients with glioblastoma?
- What is the optimal radiation therapy plan for patients with glioblastoma?
- Is adjuvant radiation of benefit to elderly patients with glioblastoma?

Search Strategy

Medical journals were searched using the Medline (1950 to December Week 4, 2009), EMBASE (1980 to December Week 4, 2009) Cochrane Database of Systematic Reviews (4th Quarter, 2009), and PubMed databases. The search terms included: Glioblastoma [MeSH heading], Glioma [MeSH heading], Brain Neoplasms [MeSH heading], Astrocytoma [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 anaplastic astrocytomas or anaplastic oligodendrogliomas as the only high-grade gliomas, or were published prior to the year 2000. All retrieved articles were graded using the criteria outlined by Lau et al. (CMAJ 2007 Apr;176[8]:S1-13).

A search for new or updated clinical practice guidelines published from January 2000 to January 2010 was also conducted, and yielded nine published guidelines by the following organizations: Cancer Care Ontario (CCO), the BC Cancer Agency, 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, the European Society for Medical Oncology (ESMO), and the Canadian Glioblastoma (GBM) Recommendations Committee.

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

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Updated 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 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 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 formulated 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 will be sent to all members of the Provincial Tumour Team for review and comment. The working group members will then make final revisions to the document based on the received feedback, as appropriate. Once the guideline is finalized, it will be officially endorsed by the Provincial Tumour Team Lead and the Director of Provincial Clinical Teams.

Recommendations

Major Recommendations

1. Surgery is the initial recommended approach for both debulking and obtaining of tissue for diagnosis. Whenever possible, safe, maximal resection is preferred in the management of glioblastoma (GBM). A larger resection after initial biopsy is left to the discretion of the surgeon depending on the location of tumour and other factors.
2. Adjuvant chemo-radiation therapy is considered the standard of care following surgery for patients with newly diagnosed GBM. Whenever possible, surgery should be followed by radiotherapy and concurrent temozolomide chemotherapy, followed by six cycles of adjuvant temozolomide. For patients who show improvement on therapy, additional cycles of temozolomide may be considered.
3. External beam radiation therapy should be given in standard fractionation to a maximum total dose of 60 Gy using 3-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.
4. Determination of O6-methylguanine-DNA methyltransferase (MGMT) promoter methylation status may assist in determination of prognosis.
5. The course of radiotherapy may be abbreviated to 40 Gy in 15 fractions in elderly patients (≥ 60 years old). For elderly patients with a poor performance status, consideration may be given to adjuvant radiation therapy alone.
6. Concurrent and/or adjuvant treatment with temozolomide may be considered in patients older than 60 years of age with a good performance status (Karnofsky Performance Status [KPS] ≥ 70).

Clinical Algorithm(s)

None provided

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The recommendations are supported in part by systematic reviews, meta-analyses, randomized controlled trials, and new or updated practice guidelines.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate management for patients with glioblastoma to improve outcomes and decrease the adverse effects of treatment

Potential Harms

Not stated

Qualifying Statements

Qualifying Statements

The recommendations contained in this guideline are a consensus of the Alberta Provincial CNS Tumour Team 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 and review the guideline at local and provincial tumour team meetings and weekly rounds.
- Post the guideline on the Alberta Health Services website.

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. Glioblastoma. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2010 Feb. 14 p. (Clinical practice guideline; no. CNS-001). [68 references]

Adaptation

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

Date Released

2010 Feb

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

Glioblastoma Working Group

Composition of Group That Authored the Guideline

Not stated


Financial Disclosures/Conflicts of Interest

None of the authors of this guideline had any conflict of interest related to evidence or recommendations in this guideline.

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 February 10, 2012. The information was verified by the guideline developer on March 30, 2012.

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