Guideline Summary NGC-9405

Guideline Title

Medulloblastoma.

Bibliographic Source(s)

Alberta Provincial CNS Tumour Team. Medulloblastoma. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2010 Aug. 10 p. (Clinical practice guideline; no. CNS-008). [44 references]

Guideline Status

This is the current release of the guideline.

Scope

Disease/Condition(s)

Medulloblastoma

Guideline Category

Evaluation

Management

Risk Assessment

Treatment

Clinical Specialty

Family Practice

Internal Medicine

Neurological Surgery

Neurology

Oncology

Pathology

Radiation Oncology

Radiology

Surgery

Intended Users

Advanced Practice Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To provide consensus-based recommendations for the evaluation, treatment, and management of medulloblastoma

Target Population

Adults over the age of 18 years diagnosed with medulloblastoma

Note: Different principles may apply to pediatric patients.

Interventions and Practices Considered

Evaluation

1. Evaluation within a multidisciplinary tumour team
2. Encouraging participation in a clinical trial
3. Initial workup: cerebrospinal fluid (CSF) cytology and magnetic resonance imaging (MRI) of the brain and total spine

Treatment/Management

1. Maximal safe surgical resection
2. Postoperative radiotherapy
3. Adjuvant chemotherapy
4. Long-term follow-up

Major Outcomes Considered

- Accuracy of tumour staging
- Accuracy of prediction of disease prognosis
- Five-year, disease-free, event-free, median, and overall survival
- Rate of tumour control
- Rate of treatment failure
- Time to disease recurrence/progression
- Adverse events, complications, and toxicity of treatment

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary 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 Question

What is the optimal management strategy for adult patients with medulloblastoma?

Search Strategy

Medical journal articles were searched using the Medline (1950 to March Week 4, 2010), EMBASE (1980 to March Week 4, 2010), Cochrane Database of Systematic Reviews (1st Quarter, 2010), and PubMed electronic databases; the references and bibliographies of articles identified through these searches were scanned for additional sources. The MeSH heading Medulloblastoma was combined with the search terms "Surgery", "Radiotherapy", "Drug Therapy", "Therapy", and "Follow-up Studies". The results were limited to adults, practice guidelines, systematic reviews, meta-analyses, comparative studies, multicentre studies, randomized controlled trials, and clinical trials. Articles were excluded from the review if they: addressed medulloblastoma in pediatric or adolescent patients, had a non-English abstract, were not available through the library system, or were case studies involving less than five patients. A review of the relevant existing practice guidelines for medulloblastoma was also conducted by accessing the practice guidelines on the websites of the British Columbia Cancer Agency (BCCA) and the National Cancer Institute (NCI).

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

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 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 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 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 has been 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

Evaluation and Workup

1. Evaluation and management of adult patients with medulloblastoma should be discussed and planned within a multidisciplinary tumour team. Whenever possible, participation in a clinical trial is encouraged.

2. The initial workup should include cerebrospinal fluid (CSF) cytology if safe, and an magnetic resonance imaging (MRI) of the brain and total spine, given the risk of seeding throughout the craniospinal axis.

Treatment

3. Maximal safe surgical resection followed by postoperative radiotherapy and possibly adjuvant chemotherapy is the recommended treatment algorithm for adult patients with medulloblastoma. An attempt should be made to excise as much as possible of the grossly visible tumour.

4. Postoperative radiotherapy to the entire craniospinal axis to a dose of 36-40 Gy, followed by a posterior fossa boost to 54-55.8 Gy should be administered. Sites of gross disease elsewhere in the craniospinal axis should be boosted to at least 40 Gy. Concurrent chemotherapy may allow for use of lower craniospinal radiation doses of 23.4 Gy.

5. In contrast to childhood medulloblastoma, the role of chemotherapy in adult patients with medulloblastoma is less clear. Based on extrapolation from the pediatric literature, however, adjuvant chemotherapy may be considered for adults with high-risk disease, and also for the treatment of recurrence. There is currently no strong evidence to

support a specific chemotherapy regimen in adults.

Follow-up

6. Long term follow-up (5 to 10 years) is recommended following completion of therapy, due to the potential for late recurrence, as well as neurocognitive, neuroendocrine, thyroid, pulmonary, cardiac, gastrointestinal, renal, and reproductive late effects.

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 evaluation, treatment, and management of medulloblastoma in adults

Potential Harms

Adverse effects (including acute and late effects), complications, and toxicity of treatment

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 Web site.
- 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. Medulloblastoma. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2010 Aug. 10 p. (Clinical practice guideline; no. CNS-008). [44 references]

Adaptation

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

Date Released

2010 Aug

Guideline Developer(s)

Alberta Health Services, Cancer Care [State/Local Government Agency] [Non-U.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 24, 2012. The information was verified by the guideline developer on February 13, 2013.

Copyright Statement

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