VA RESEARCH & DEVELOPMENT

TECHNOLOGY ASSESSMENT BRIEF

Stereotactic Radiosurgery for Treatment of Metastatic Brain Tumors

Report #7

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Primary Objective: To assess the effectiveness of stereotactic radiosurgery (SRS) for the treatment of metastatic brain tumors.

Methods Used: Systematic review of published research.

Background: SRS is a specialized form of radiation therapy that delivers precisely focused beams of radiation to a targeted lesion in the brain. The intent is to destroy or control the lesion without harming healthy tissue. This technology has been used to treat a variety of brain abnormalities, and indications for its use are being expanded to include metastatic tumors to the brain.

Key Findings: The best available evidence from case studies suggests that SRS is a relatively safe and effective technology for treating brain metastases in selected patients; • SRS uses fewer resources than open cranial surgery; • patients with limited numbers of relatively small tumors and well-controlled systemic cancer appear to have gained the greatest benefits from SRS; • existing research does not permit valid comparisons of the relative effectiveness of SRS with other treatment options.

Conclusions/Recommendations:

- It is too early to draw definite conclusions about optimal treatment parameters.
- Additional research is needed to address the many unanswered questions concerning use of SRS for the treatment of brain metastases.

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