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Stereotactic Radiosurgery in the Treatment of Craniofacial and Brain Tumors: A Bibliometric Analysis

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Abstract

Objective: Stereotactic radiosurgery (SRS) is a type of radiotherapy that is noninvasive and highly precise. Given its many advantages, it plays a key role in the treatment of both primary and metastatic craniofacial and brain tumors. This study aims to identify trends and patterns in research related to the treatment of brain tumors using stereotactic radiosurgery.

Methods: Bibliometric data of 5007 publications found in Web of Science Core Collection were analyzed according to several different criteria, including time, country, organization, citation count, keywords, and authors. The analysis revealed that research relating to the treatment of brain tumors using SRS has increased as new technologies and treatment strategies have developed.

Results: Though many countries are involved, the majority of publications come from the United States of America, which accounts for 62% of all publications related to the topic. The majority of top authors and organizations in terms of publication count are also from the United States. Finally, trends in keywords commonly found in publications related to craniofacial and brain tumors and SRS indicate shifts in research focus over time.

Conclusion: This bibliometric analysis sheds light on emerging trends in the field of craniofacial and brain tumor management, with frequent spikes in publication count attributable to the development and release of new versions of specific technologies, such as the Gamma Knife and CyberKnife. Frequent publications on new versions of technologies such as the Gamma Knife and CyberKnife advance the field of Stereotactic Radiosurgery (SRS) by disseminating vital information, establishing evidence-based practices, and driving continuous innovation in clinical treatment options.

Keywords: Bibliometric analysis; brain tumor; stereotactic radiosurgery.