Review Cancer Radiother. 2023 Jun 19;S1278-3218(23)00066-5.

doi: 10.1016/j.canrad.2023.01.007. Online ahead of print.

Application of intraoperative radiotherapy for malignant glioma

Xiaoqin Ji 1 , Wei Ding 1 , Jiasheng Wang 1 , Bin Zhou 1 , Yikun Li 1 , Wanrong Jiang 1 , Hao Pan 2 , Jun Gu 3 , Xiangdong Sun 4

Affiliations PMID: 37344258 DOI: 10.1016/j.canrad.2023.01.007

Abstract

Malignant glioma is characterized by rapid tumor cell proliferation and high recurrence risk. In terms of its treatment, the therapeutic effects of maximum resection and postoperative radiotherapy with adjuvant chemotherapy as well as many other new therapeutic techniques such as antiangiogenic therapy and immunotherapy remain poor. Glioma recurrence, especially local recurrence, is an important reason of glioma treatment failure. Intraoperative radiotherapy (IORT) enables exclusion of radiation-sensitive normal tissue from the radiation field in operation and then the application of a single high-dose precision irradiation to the residual tumor or tumor bed. IORT has great application potential in the control of local recurrence of malignant tumors. This paper thus aims to review the current status and prospects of IORT's application in malignant glioma treatment.

Keywords: Glioblastoma multiforme (GBM); Glioblastome; Gliome malin; Intraoperative radiotherapy (IORT); Malignant glioma; Radiotherapy; Radiothérapie peropératoire; Therapy.

Copyright $\ensuremath{\mathbb{C}}$ 2023. Published by Elsevier Masson SAS.