Brain metastases represent the first cause of malignant brain tumor. Without radiation therapy, prognosis was poor with fast neurological deterioration, and a median overall survival of one month. Nowadays, therapeutic options depend on brain metastases presentation, extra brain disease, performance status and estimated prognostic (DS GPA). Therefore, for oligometastatic brain patients with a better prognosis, this therapeutic modality is controversial. In fact, whole-brain radiation therapy improves neurological outcomes, but it can also induce late neuro-cognitive sequelae for long-term survivors of brain metastases. Thus, in this strategy for preserving good cognitive functions, stereotactic radiation therapy is a promising treatment. Delivering precisely targeted radiation in few high-doses in one to four brain metastases, allows to reduce radiation damage to normal tissues and it should allow to decrease radiation-induced cognitive decline. In this paper, we will discuss about therapeutic strategies (radiation therapy and surgery) with their neuro-cognitive consequences for brain metastases patients and future concerning preservation of cognitive functions.

Copyright © 2016 Société Française du Cancer. Published by Elsevier Masson SAS. All rights reserved.

KEYWORDS: Brain metastases; Cognitive impairment; Métastases cérébrales; Radiation therapy; Radiothérapie cérébrale; Stereotactic; Stéréotaxie; Toxicité cognitive

PMID: 28161072 DOI: 10.1016/j.bulcan.2016.12.003

[PubMed - as supplied by publisher]