

Journal Watch

Direct decompressive surgical resection in the treatment of spinal cord compression caused by metastatic cancer: a randomized trial.

Patchell RA, Tibbs PA, Regine WF, Payne R, Saris S, Kryscio RJ et al. Lancet 2005; 366: 643-48.

Prepared by: Winnie Leung

Received during: Journal Rounds on the Tertiary Palliative Care Unit, Dec 14, 2006

Abstract

Background: The standard treatment of spinal cord compression caused by metastatic cancer is corticosteroids and radiotherapy. The role of surgery has not been established. We assessed the efficacy of direct decompressive surgery.

Methods: In this randomized, multi-institutional, non-blinded trial, we randomly assigned patients with spinal cord compression caused by metastatic cancer to either surgery followed by radiotherapy (n=50) or radiotherapy alone (n=51). Radiotherapy for both treatment groups was given in ten 3 Gy fractions. The primary endpoint was the ability to walk. Secondary endpoints were urinary continence, muscle strength and functional status, the need for corticosteroids and opioid analgesics, and survival time. All analyses were by intention to treat.

Findings: After an interim analysis the study was stopped because the criterion of a predetermined early stopping rule was met. Thus, 123 patients were assessed for eligibility before the study closed and 101 were randomized. Significantly more patients in the surgery group (42/50, 84%) than in the radiotherapy group (29/51, 57%) were able to walk after treatment (odds ratio 6.2 [95% CI 2.0-19.8] p=0.001). Patients treated with surgery also retained the ability to walk significantly longer than did those with radiotherapy alone (median 122 days vs 13 days, p=0.003). 32 patients entered the study unable to walk; significantly more patients in the surgery group regained the ability to walk than patients in the radiation group (10/16 [62%] vs 3/16 [19%], p=0.01). The need for corticosteroids and opioid analgesics was significantly reduced in the surgical group.

Interpretation: Direct decompressive surgery plus postoperative radiotherapy is superior to treatment with radiotherapy alone for patients with spinal cord compression caused by metastatic cancer.

Comments

Strengths/uniqueness:

This is a well-designed study. The groups were equal and represented the main cancers that cause cord compression from metastases. More recent studies have

shown benefit with direct decompressive surgery, but this is the first study to use a randomized design. The surgery + radiotherapy group had a NNT=4 for the primary outcome of ability to walk.

Weaknesses:

It is unusual that it took 10 years to recruit the study patients, and the authors did not specify how the patients were recruited. Multiple groups were excluded, which may introduce selection bias. There is no information about baseline co-morbidities of the study patients; co-morbidities may influence their ability to walk.

Relevance to Palliative Care:

The findings of this trial may confer improved quality of life and independence in the palliative population. Surgery in palliative patients is often limited by their general condition.