

portfolio. The growth of the specialty of palliative medicine represents both an opportunity and a challenge. Cancer as a progressive chronic disease requires management by a multidisciplinary team – the members of which may have different perspectives. The challenge is to provide patient-centered care, using all the interventions available to us.

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### Pain control for bone metastases

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**Purpose:** to improve palliative care of patients with painful bone metastases by reducing the number of visits to the radiotherapy department. The effect on palliation of a single fraction of 8 Gy was compared to that of a total dose of 24 Gy in 6 fractions.

**Patients:** 1171 patients were randomized. The primary tumour was in the breast in 39%, in the prostate in 23%, in the lung in 25% and in other locations in 13% of the patients. Bone metastases were located in the spine (30%), the pelvis (36%), femur (10%), ribs (8%), humerus (6%) and other sites (10%).

**Method:** questionnaires were used to collect information on pain, analgesic consumption, side effects during treatment, quality of life and costs. Questionnaires were sent out every week up to 3 months, thereafter every 4 weeks up to 2 years. Pain was measured on a pain scale from 0 (no pain) to 10 (worst imaginable pain).

**Results:** on average patients participated in the study for 4 months. The median survival was 7 months. Different techniques were used to analyse the pain data. Overall no differences between the two treatment schedules were found. On average patients lowered their pain score from 7 to 4 and it was shown that this reduction occurred mainly in the first 4–6 weeks. The response rate was 89% defined as a decrease of at least 2 points as compared to the initial pain score. With regard to quality adjusted life years similar results were found. The number of retreatments was 188 (16%). This number was higher in the  $1 \times 8$  irradiation group, namely 147 (25%) versus 41 (8%) in the  $6 \times 4$  group. More pathological fractures occurred in the single dose group. The actual percentage however, was still below the percentages mentioned in other studies.

**Conclusion:** given the quality in the effects on palliation, we had to conclude that a single fraction is preferred in patients with painful bone metastases, even at the expense of a higher chance of retreatment. The results of the Dutch trial will be discussed with reference to other studies on this subject.

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Abstract not received.

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### Radiation treatment for bone metastases from prostate cancer

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Bone pain affects the majority of patients with metastatic prostate cancer. Following relapse from first-line hormonal treatment, palliation of such pain may include analgesia, further hormonal treatment, chemotherapy and bisphosphonates, but external beam radiotherapy (EBRT) or radio-isotope treatment is often the best option.

In randomised trials of palliative local EBRT, although in patients with a variety of cancers, not specifically prostate, a single radiation treatment of 8 Gy is comparable to fractionated regimens. Pain relief should be achieved in 70% to 80% of patients. Fractionated EBRT may still be appropriate where there is a low metastatic burden, for weight-bearing bones, and where there is a risk of impending pathological fracture or spinal cord compression. Hemibody radiotherapy has the attraction of treating multiple sites of metastases at one time provided they are confined to one "half" of the body, but while the response is rapid (50% within 48 hours, 80% within 7 days) many patients will experience nausea and vomiting, and diarrhoea is not uncommon in patients who receive "lower hemibody" treatment. Bone marrow suppression for a variable length of time may occur.

Early clinical trials with Sr89 demonstrated efficiency in end-stage patients, and two randomised controlled trials, from Canada and the UK, subsequently confirmed its benefit. In the Canadian trial, Sr89 showed a

clear improvement in outcome when added to local EBRT, in terms of response rate, duration of effect, reduction in new sites of pain, and cost effectiveness. In the UK trial, two groups of patients were enrolled, one where painful metastases were felt suitable for local radiotherapy, and another where hemibody radiotherapy was more appropriate, and within each of these two groups patients were randomised to receive EBRT or Sr89. Sr89 was equivalent to EBRT in terms of response rate and duration, but Sr89 reduced the frequency with which new metastases developed. In both of these trials no survival benefit could be shown, and the main toxicities were an increase in bone pain for two or three days after the injection, and a reduction in platelets. Other isotopes, including Re186 and Sam153, have been less extensively researched, but appear to produce an earlier response than Sr89, but with a shorter duration of action. Sr89 has subsequently been combined with chemotherapy in an attempt to improve the response rates further, and currently the UK group is examining the role of Sr89 in patients with evidence of biochemical relapse from first line hormonal treatment.

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### Brain metastases – Radiosurgery or whole brain irradiation?

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Brain metastases is an important cause of morbidity and mortality in cancer patients. The median survival for patients with symptomatic metastases to the brain is about 1 month if they remain untreated and about 3 to 6 months if they undergo conventional whole brain irradiation (WBRT). Patients treated with surgery and postoperative radiotherapy have a significantly longer survival, improved quality of life compared to those treated with WBRT alone. Following complete surgical resection no significant difference in overall length of survival or the time of functional independence has been noted. However, the frequency of recurrences and mortality due to neurological cause is lower. A number of reports have shown that stereotactic radiosurgery (SRS) is an effective, noninvasive therapeutic approach that can produce substantial functional survival, especially in patients with good performance status and without extracranial metastasis when used alone or in combination with WBRT. The results of SRS are comparable to the aforementioned recent randomised trials of resection and WBRT. There is evidence that the efficacy of SRS is not increased by adding WBRT and there is a trend to withhold WBRT in as many cases as possible to avoid both the short- and long-term morbidity of that treatment. Furthermore the advantages of SRS over surgery in terms of cost, hospitalisation, morbidity, and wider applicability strongly suggest that a randomised trial to compare SRS with surgery in combination with and without WBRT is warranted. This would help to clarify should SRS be used instead of surgery and followed by WBRT, adjutantly with WBRT, or on tumour progression or recurrence after WBRT.

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### Retreatment in head and neck squamous cell carcinoma

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Our experience of full dose re-irradiation (re-RT) in head and neck carcinoma (HNC) was reviewed in a series of 169 patients who presented with an inoperable HNC in a previously irradiated area ( $>50$  Gy). The treatment consisted of a combination of radiotherapy (60 Gy) and chemotherapy (CT) (mainly 5FU-Hydroxyurea). Toxicity was markedly increased compared to the toxicity due to the first RT, but still remained acceptable. A 37% complete remission was observed at 6 months and the overall survival rate were 21 and 9% at 2 and 5 years, respectively. The median survival was 10 months which is higher than that usually reported in comparable studies using palliative CT. These findings are in agreement with few other studies showing that full-dose re-RT combined with CT is feasible in inoperable HNSCC and could lead to a small proportion of patients long-term free of disease.

These findings strongly suggest that re-RT + CT might constitute a standard in the difficult and frequent situation of HNSCC inoperable relapse in a previously irradiated area. However, in spite of the encouraging results, it remains to be proved that the combination of re-RT and CT is superior to palliative CT alone. In that aim, we have started a randomized trial within the GORTEC (French Group for Head and Neck Oncology), comparing re-RT + CT to CT alone. In addition, since there is strong evidence of added toxicity due to the re-RT, it is necessary to attempt to minimize this toxicity, which could be further tested by optimizing the re-irradiated volumes (3D conformal