Palliative radiotherapy for cervical carcinoma, a systematic review

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CRD summary
This review concluded that there was a lack of information on the best palliative radiation schedule for patients with advanced cervical cancer, and no evidence that delivery of a high dose in multiple smaller fractions produced better response. Uncertainty over the review process, the quality of studies and the possibility of publication bias make the reliability of this conclusion unclear.

Authors' objectives
To determine the optimal palliative radiation regimen for the treatment of advanced cervical cancer.

Searching
MEDLINE, EMBASE, CINAHL, Google Scholar and The Cochrane Library were searched up to January 2010 without restrictions on language or publication status date. Some search terms were reported. References of identified studies were also checked.

Study selection
Studies of any design that enrolled more than ten women and assessed external beam radiation or brachytherapy for the treatment of cervical cancer symptoms without a primary curative intent were eligible for inclusion. Main symptoms were specified as bleeding, pain or discharge; numerical data on at least one of these outcomes were required. Health-related quality of life and long and short term adverse events were also considered. Studies that included other pelvic soft tissue tumours were included whether or not data on cervical cancers were reported separately.

All the included studies except one used external beam radiation. Details of treatment protocols varied; three studies used lower doses repeated within 48 hours to one week. Some studies reported tailoring the protocol according to whether patients showed a good response to treatment. Studies were published between 1979 and 2002 and all except one were conducted in high income countries.

Studies were assessed by one author using titles and abstracts; the full paper was reviewed in cases of uncertainty.

Assessment of study quality
The authors did not state that they assessed validity but briefly discussed some aspects of validity in the narrative synthesis.

Data extraction
Data were extracted on primary and secondary outcomes in addition to the treatment protocols and baseline disease status and symptoms of the patients. Data recorded after the first treatment fraction were given priority as they were not subject to subsequent selection bias. The authors did not state how many reviewers performed the data extraction.

Methods of synthesis
The studies were combined in a narrative synthesis grouped by outcome reported.

Results of the review
Eight studies (596 participants) were included in the review of which seven were observational and one was a subgroup of a clinical trial. Five of the observational studies were retrospective.

Bleeding: Three studies reported cessation of bleeding after the first radiation fraction and showed cessation in 45% (86 patients), 31% (76 patients) and 0% (41 patients) of women. A fourth study used 13Gy in two fractions over two days and found cessation in 46% of 35 patients. One study delivered 10Gy in two fractions with brachytherapy and reported cessation in 93% of 15 women. Subsequent fractions in selected women improved bleeding for between 75% and 100% (number of studies and patients not reported).
Pain: Three studies reported pain, but validated scales were not used. One study reported improved pain in 42% of 31 patients but in 0% of six patients in a second study using 10Gy. The third study reported less pain in eight of 11 patients treated with 13Gy in two fractions.

Discharge: Relief from discharge varied between 15% and 100% in the two studies that reported it; a third study reported relief from a range of related symptoms in between 43% and 100% of women.

Adverse events: Acute toxicity was under 10% with the exception of one study that reported grade 1 to 2 gastrointestinal problems in 42% of women. Late toxicity was poorly reported; one study reported 12% fistulae and tissue necrosis which were attributable to radiation therapy or tumour progression while a second reported 24% grade 3 to 4 gastrointestinal problems after three 10Gy fractions plus misodinazole.

Authors' conclusions
There was a lack of information on the best palliative radiation schedule for treatment of patients with advanced cervical cancer. There was no evidence that better and longer palliation result from the delivery of a high dose in multiple smaller fractions.

CRD commentary
The review question and inclusion criteria were clear. Multiple databases were searched without restrictions, which reduced the chances of selection bias due to language or publication status; specific search for unpublished studies was not reported. The authors did not report that they formally assessed the validity of the included studies, but relevant aspects of validity were discussed. They also did not report using methods designed to reduce reviewer bias and error in the review process. The decision to employ a narrative synthesis was appropriate and the authors' conclusions reflected the results of the review which showed a lack of available data. Uncertainty over the review process, the quality of the included studies and the possibility of publication bias mean that the reliability of this conclusion is unclear.

Implications of the review for practice and research

Practice: The authors stated that establishing optimal palliation using a minimal number of fractions and hospital visits had the potential to improve costs and access to care.

Research: The authors stated that controlled studies, with validated palliative and quality of life endpoints, that compared different radiation fractionation schedules in advanced cervical cancer were required to establish an optimal treatment scheme for palliative treatment.

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