Radioimmunotherapy and colorectal cancer
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CRD summary
This poorly reported review assessed radioimmunotherapy for colorectal cancer (CRC). The authors concluded that radioimmunotherapy might be an effective adjuvant treatment in CRC, but that more research is needed. The lack of a description of review methods, and no apparent quality assessment of what appears to be weak evidence, suggests that these conclusions should be interpreted with some caution.

Authors’ objectives
To evaluate radioimmunotherapy for colorectal cancer (CRC).

Searching
The authors searched MEDLINE and EMBASE. The period searched and search terms used were not reported.

Study selection
Study designs of evaluations included in the review
Clinical trials were eligible for inclusion. Other than that, no inclusion criteria were specified. The included studies were phase I or phase II single-arm studies without control groups.

Specific interventions included in the review
Studies investigating radioimmunotherapy were eligible for inclusion. Other than that, no inclusion criteria were specified. The interventions in the included studies used 5 different radionuclides and 15 different radiolabelled monoclonal antibodies (against carcinoembryonic antigen, tumour-associated glycoprotein 72, epithelial cellular adhesion molecule, A33 or colon-specific antigen P).

Participants included in the review
Patients with CRC were eligible for inclusion. Other than that, no inclusion criteria were specified. The majority of the patients in the included studies had CRC, mainly in an advanced state; in some studies a few patients with other malignancies were also included. In most studies the participants had been extensively treated with chemotherapy and/or radiotherapy.

Outcomes assessed in the review
No inclusion criteria were specified for the outcomes. The review assessed complete response, partial mixed response, stable disease, disease progression and toxicity. Not all of the included studies reported on the therapeutic efficacy.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors discussed characteristics of the individual studies such as response categorisation. The authors did not state how many reviewers performed the validity assessment.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.
Methods of synthesis
How were the studies combined?
The results were tabulated and described in a narrative synthesis.

How were differences between studies investigated?
The studies were discussed according to targeted antigen or pre-targeted radioimmunotherapy.

Results of the review
Twenty-three phase I and II studies were included in the review (n=463).

Carcinoembryonic antigen (14 studies, 281 patients).

The 4 studies reporting complete response rates reported complete response in 0, 5 and 10% of patients. The 9 studies reporting partial response rates reported partial response in 0 to 20% of patients. The 7 studies reporting stable disease reported this in between 12 and 54% of patients. The one study using pre-targeted radioimmunotherapy did not report on the effectiveness.

Tumour-associated glycoprotein 72 (4 studies, 60 patients).

Three studies reported stable disease in 22 to 25% of patients; the fourth study reported no response in any patients.

A33 (2 studies, 44 patients).

Two trials reported a mixed response in 13% and 5% of patients, respectively.

Epithelial cellular adhesion molecule (2 studies, 53 patients).

One of the 2 studies reported stable disease in 38% of patients; the other study using pre-targeted radioimmunotherapy showed partial response in 8% of patients and stable disease in 16% of patients.

Colon-specific antigen P (1 study, 25 patients). The identified study did not report on the effectiveness.

Authors’ conclusions
Radioimmunotherapy might be an effective adjuvant treatment modality for patients with CRC. Future research should focus on its application in patients with small-volume or minimal residual CRC.

CRD commentary
The publication encompassed a sparsely documented review. The inclusion criteria were vague or were not specified, and were not always strictly adhered to. The search was limited to two databases and no other details, such as the search period, were reported. Attempts to locate unpublished studies do not appear to have been made. All of the included studies had been published in English, but it was unclear whether a language restriction had been applied. Publication and language bias might have affected the review. It was unclear whether attempts had been made to reduce errors and subjectivity in the selection and extraction of data from the individual studies. Not all of the included studies reported on the effectiveness of the interventions. The quality of the included studies was not assessed and the duration of follow-up in the individual studies was not reported consistently. The samples were small and consisted of mainly patients with CRC, but not exclusively, and most patients seem to have had an advanced stage of the disease. A positive effect of the intervention was actually only observed for a very limited number of patients. The authors’ synthesis of the studies was not easy to follow. The conclusions are based on weak evidence and their cautious nature is justified.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.
Research: The authors stated that clinical trials should investigate the addition of radioimmunotherapy to standard regimens. Radioimmunotherapy should be tried as adjuvant treatment after the resection of primary CRC when there is a high risk of distant metastasis.

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