



Title **Brachytherapy for Prostate Cancer**
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Aim

Brachytherapy is increasingly being used to treat localized prostate cancer. This report undertakes a critical and systematic review of the clinical and cost effectiveness of brachytherapy compared with radical prostatectomy, external beam radiation, or watchful waiting in patients with localized prostate cancer.

Methods

Studies were identified by searches in the HTA Database, Cochrane, MEDLINE, and EMBASE (August 2001). Only comparative studies were included (RCT, CT, cohort or case-control studies). Outcomes assessed: total or disease-free survival, surrogate-free survival (PSA), complications, and quality of life. The validity judgment considered whether groups were comparable with respect to age, disease severity, comorbidity, and followup.

Results and conclusions

No randomized controlled trials or large prospective studies compared prostate brachytherapy with other treatment modalities. In general, studies were of poor quality (cohort, case-control, and case-series), and many had poor validity. Only 5 of the 16 studies considered to be relevant were included in the final summary of evidence. Reasons for exclusion were that the groups were incomparable with respect to age and clinical stage or followup was incomplete.

- None of the included studies had sufficient followup for overall or disease-free survival.
- No difference in "no biochemical evidence of disease" (PSA) for followup of 5 to 10 years.
- No major difference in complications (urinary tract irritation, impotence, and proctitis), and long-term complications are not known.
- No studies allowed for valid comparison regarding quality of life.

Cost effectiveness

The estimated 1-year costs for the Norwegian healthcare system suggested no major cost differences between the three treatment modalities.

- Radical prostatectomy: 10 700 Euros
- Brachytherapy: 12 000 Euros
- External beam radiotherapy: 14 700 Euros

In conclusion, brachytherapy is neither better nor worse than other treatment options for prostate cancer. A search for ongoing studies showed that information from randomized controlled trials remains at least 10 years into the future. Prostate cancer patients face a choice of three treatment options, each with poor documentation of clinical effectiveness.