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Title: Brachytherapy treatment of localized prostate cancer

Agency: CEDIT, Comité d'Evaluation et de Diffusion des Innovations Technologiques

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Aim:

CEDIT received a request from Pr. Abbou (Urology Department at Henri-Mondor hospital, Paris), Pr. Leduc (Urology Department at Saint-Louis Hospital, Paris) and Pr. Boccon-Gibod (Urology Department at Bichat Hospital, Paris) for an opinion on the application of brachytherapy in treating localized prostate cancer in their departments.

Results:

CEDIT is of the opinion that there are too many reservations in terms of exact indications, methodology, effectiveness, and results on the quality of life for brachytherapy to be widely applied as treatment for localized prostate cancer. CEDIT believes that the effectiveness of this technique is still under evaluation, and therefore its use must be limited to one reference center where experience has already been acquired. As cooperation on this subject between the departments of Urology and Radiation Therapy at the Saint-Louis Hospital is operational and experience has been acquired, they are designated by CEDIT as a reference center for this treatment within AP-HP. It will be the role of this center to conduct rigorous evaluations to obtain clinical and economic results for a potentially wider application of the technique in AP-HP.

Methods:

A summary of the reports concerning this technique was published in 1999 by INAHTA, concluding that it was not possible to show that brachytherapy was more effective than other existing treatments, and that it might even be less effective. Since its side effects appeared to be less frequent, it was suggested that brachytherapy be reserved for low-risk localized cancers, at stage T1c, T2a, PSA<=10, Gleason <7 ng/ml, the risk of biological failure (rise in PSA) being three times higher if risk is average or high. CEDIT analyzed the literature available since 1999 and reports that: currently there is no prospective, randomized study that compares brachytherapy to other treatments, nor is a meta-analysis possible given the diversity of the various publications; brachytherapy requires a multidisciplinary organization and techniques where experience is acquired only after 30 patients have been managed at a rate of at least one treatment per week; comparisons between patients of the different series are not validated either in terms of results or side effects - follow-up indicates an increase in complications over time, particularly impotence in over 50% of patients in certain series; the fundamental concept of quality of life is largely under-evaluated; this technique is still under development as its indication as a *single treatment* for low-risk cancer T1 to T2a in 1999 seems to be restricted by the authors to cancer at stage T1; *the association of brachytherapy with hormone treatment and/or external radiation therapy* is yet to be evaluated for other stages of the disease; given the considerable variations in indications, techniques, doses, and associations, *the American Brachytherapy Society (ABS) in 1999 gave out clinical and dosimetric codes of conduct to uniformalize* treatment parameters and methods for data presentation.

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