EDITORIAL COMMENT

Clinical and biochemical outcome of conventional dose radiotherapy for localized prostate cancer – Page 1444

There has been continuous evolution in radiation treatment for prostate cancer over the last decade in order to improve its therapeutic efficacy. The scope of new initiatives includes the introduction of trans-rectal ultrasound guided brachytherapy, dose escalation using three-dimensional conformal or intensity modulated radiotherapy, and the addition of neo-adjuvant and/or adjuvant hormone therapy. The article by Catton, et al reflects the experience of a single institution in the era during which 'conventional dose' was used for definitive radiotherapy for the treatment of clinically organ confined disease. It highlights limited efficacy in eradicating prostate cancer of 'conventional dose' radiotherapy, which usually refers to external beam radiotherapy typically delivered with three to four fields to doses of 60 Gy to 66 Gy in 1.8 to 2.0 Gy fractions. The overall results of conventional dose radiotherapy in this series were sub-optimal with less than half of patients remaining free of PSA relapse at 5 years. In recent years, carefully conducted prospective cohort studies and one randomized trial have demonstrated that dose escalation using conformal technique increases PSA relapse free survival with no increase in either acute or late radiotherapy toxicity. The most consistently observed benefit has been seen in patients with intermediate risk disease. These findings have resulted in a major shift in radiotherapy towards dose escalation in the range of 75 Gy to 78 Gy in 1.8 to 2.0 Gy fractions for the management of clinically organ confined prostate cancer. Thus the use of conventional dose radiotherapy is becoming less common.

As in other radiotherapy series, the authors examined a model that combined prognostic variables to generate risk stratification groups and predict the outcome of radiotherapy. Such endeavors have lead to an improved understanding of tumor biology and prognostic factors, and allowed more appropriate treatment selection for a patient and the development of new approaches such as dose escalation or the addition of neo-adjuvant and/or adjuvant hormone therapy.

This retrospective study covered a period between 1987 and 1994 and indicated that patient entry pre-dated the wide use of PSA testing in clinical practice, resulting in only 30% of cases diagnosed by PSA screening. This factor likely explains why 21.5% (152 patients), unusually high by today's standards, had TURP for the definitive diagnosis of malignancy or obstructive urinary symptoms. As PSA screening has been widely utilized in clinical practice, there has been a steady change in case mix in the radiotherapy setting in the last several years, with a shift towards more cases with favorable clinical parameters.

Overall survival and metastasis-free rates were 87% and 86%, respectively, at 5 years in the series, while PSA relapse-free rate was only 45% at 5 years. This reflects a long natural history of clinically localized prostate cancer and is similar to the observation made in patients with PSA failure following radical prostatectomy.

As the authors pointed out, there are many unresolved issues in radiation treatment for clinically organ-confined disease. Further refinements in patient selection for dose escalation, radiation technique, and optimal radiation dose are areas of ongoing clinical research. Also the optimal way of integrating hormone therapy with radiation treatment, in particular, in the era of dose-escalation remains unresolved. This retrospective study has provided a useful historical baseline to which the efficacy of a new strategy can be compared.

Dr. Richard Choo, MD, FRCPC
Toronto-Sunnybrook Regional Cancer Centre
Toronto, Ontario, Canada