

Lifestyle habits during and after prostatic radiotherapy influences the risk of late toxicity

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Background More men are surviving prostate cancer yet living with the late adverse effects of treatment. Although improvements in radiotherapy techniques are reducing risks, little is known about the benefits of self help lifestyle measures.

Method This retrospective study evaluated an entire cohort of men who were treated with radical radiotherapy at Addenbrooke's Hospital within 2000-2010, via the Bedford Hospital pathway (n alive at time of study=470). 440 (94%) completed a questionnaire consisting of the Vaizey Rectal Toxicity score, the NCI common toxicity scores for rectal bleeding, erectile function and urinary incontinence, a General Practical Physical Activity Questionnaire and questions concerning BMI and smoking. The effect of each lifestyle criteria on rectal toxicity was investigated using a non-parametric ANOVA (Kruskal-Wallis) test and other side effect scores using a chi-squared test (significance level $\alpha=0.05$).

Results 7.5% men smoked during their radiotherapy. At the time of the survey, 63% were over-weight or obese (BMI >25); 58% were inactive, 27% moderately inactive and 15% active. Active men had significantly lower rectal toxicity and significantly better erectile and urinary function. Men smoking >5/day had significantly worse rectal toxicity as did overweight men. There were no significant effects of the measured lifestyle criteria on PSA relapse.

Conclusion This is the first comprehensive evaluation of lifestyle habits during and after radical radiotherapy for prostate cancer. In this large cohort, most men were inactive and overweight, but few smoked. Although a retrospective analysis, the data strongly suggests higher late toxicity among smokers, inactive and overweight men. We recommend that men should receive, written information, lifestyle counselling before and after radiotherapy and if necessary referral to smoking cessation clinics, dieticians and local gyms via the national exercise referral scheme.