

Letter

Recording a patient diet over the radical course of radiotherapy for prostate cancer using a diet diary: a feasibility study

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Dear Sirs,

We were pleased to read that other groups are exploring the feasibility of detailed self-recording of dietary intake in patients receiving long-course radiotherapy for prostate cancer. This has particular relevance in view of the continued interest in strategies to minimise rectal deformation and thus reduce prostate movement during radiotherapy planning and treatment.¹ We completely agree with the authors' finding that previous studies, which have explored dietary interventions (primarily anti-flatulent diets), have lacked information on patient compliance.^{2–4} Thus, in the one study, which failed to show a statistically significant difference in inter-fraction prostate motion,² and in the two studies, in which worse outcomes were observed in terms of increased prostate displacement,^{3,4} it is impossible to know whether the outcomes result from a true lack of efficacy or indeed adverse effects of the diet alone. This uncertainty is compounded by the fact that only one of the studies used dietary change as the sole intervention.³ The others used a combination of laxatives and diet,⁴ and laxative diet and treatment scheduling.² Further, only one study used a prospective comparator group with patients acting as their own controls.⁴

We accept that it is very difficult to design a placebo (or sham) diet, but it is certainly not

impossible (as these authors have shown) to obtain detailed records of dietary compliance or related data such as fluid intake and daily bowel habit. We have also recently commented on the remarkable diligence of patients to follow new dietary advice and related information aimed at stabilising rectal dimensions throughout planning and treatment.⁵ In a prospective study, in which 22 patients receiving long-course radiotherapy for prostate cancer were recruited, 20 provided a complete record of daily fibre intake, measured as non-starch polysaccharide: NSP. Of this cohort, 19 recorded daily fluid intake and 20 daily stool charts amounting to a total of 193 fully reported weeks or 1,351 days. In addition to the extremely encouraging response of patients in terms of compliance with record-keeping, we also found that 50% of patients actually exceeded their fibre prescription, and although 40% of patients failed to achieve it, the shortfall was modest, amounting to 1.2–2.8 g NSP/day. Although in this study we were unable to show that an individualised fibre and fluid intake throughout planning and treatment stabilised inter-fraction rectal dimensions, we did find that rectal gas was the only parameter that was associated with change in rectal volume ($p = 0.004$). Rather unexpectedly, this was independent of increased fibre intake. The elimination of rectal gas remains an elusive target. Although anti-flatulent diets aim to remove readily fermentable carbohydrates from the diet, rectal gas formation in the large bowel is not solely dependent on the precise mix of soluble (i.e. readily fermentable) versus insoluble (less fermentable) fibres but is also influenced by

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an individual's microbiota, transit time and colonic conditions such as pH.

We would like to compliment the authors on the novel approach of assessing the feasibility of involving radiotherapy personnel in ensuring patients' dietary record-keeping compliance. The resources required in respect of adequate instruction, monitoring and analysis of dietary-based interventions are intense, and it is both appropriate and practical to involve those at the centre of patient care and with daily patient contact to become involved, if appropriate. The challenges of designing and delivering a robust study to investigate truly the efficacy of a dietary intervention to reduce rectal and thus prostate motion should not be underestimated. As with so many health-care interventions, a multi-disciplinary approach involving radiotherapists, oncologists, gastroenterologists and dieticians is probably the only feasible way forward. Patients are most certainly up to the challenge.

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