Assessing the effects of radiation on the small bowel

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See related article on page 444.

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This retrospective study in this issue of *CUAJ* investigated patients who underwent salvage radiation after radical prostatectomy to see whether a transperitoneal approach increased the amount of small bowel receiving radiation.[1] Among the 122 patients included in the study, 26 underwent transperitoneal minimally invasive radical prostatectomy (MIRP) and 96 underwent extraperitoneal open radical prostatectomy (EORP). The study reported no significant difference between MIRP and EORP in the proportion of patients with any small bowel in the radiation field. However, a transperitoneal approach was associated with a higher proportion of patients receiving >40 Gy to 150 cm^3 of the small bowel – an amount of radiation that exceeds the acceptable limit according to radiation oncologists. No difference in acute toxicity related to small bowel radiation was noted between the 2 groups.

Finelli and colleagues performed a similar analysis comparing the rate of the small bowel in the radiation field between patients undergoing MIRP and EORP.[2] Although this study reported a similar finding of no difference between transperitoneal and extraperitoneal surgery in the rate of any small bowel within the radiation field, it did not investigate the volume of the bowel exposed to radiation and therefore cannot comment of these findings in the current study. However, it is worth noting that neither study gives mention of any patients, in either the MIRP or EORP group, who were unable to receive an adequate dosage of radiation due to the presence of small bowel in the radiation field.

Finally, this study did not comment on the whether an anterior or posterior approach was used in MIRP procedures. An anterior approach may result in the bladder being mobilized into the prostatic bed and preventing any small bowel from entering the radiation field. However, in the traditional posterior approach where the cul de sac is incised to initially access the seminal vesicles and vas deferens, an opening is created through which small bowel could theoretically translocate behind the bladder and enter the radiation field.

With only 2 retrospective studies looking at this phenomenon, it is difficult to make any conclusions regarding transperitoneal MIRP and the amount of small bowel that may be exposed to radiation. However, even if more bowel is exposed to radiation after MIRP, it does not appear to have any clinically relevant effects, at least in short-term follow-up. Longer follow-up will be informative.

Competing interests: Dr. Finelli is Advisory Board member for Amgen, Astellas and Janssen. He has also received honoraria from Amgen, Astellas, Janssen, Paladin and Astra Zeneca. Dr. Finelli has also participated in clinical trials in the past 2 years for Amgen, Astellas, Janssen and Ferring. Dr. Punnen declares no competing financial or personal interests.

References

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