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Office of Medical Policy & Tech Assessment  
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Dear Barbara:

ASTRO would like to thank you for the opportunity to provide comments to the WellPoint Office of Medical Policy & Tech Assessment on the topic of Intensity Modulated Radiation Therapy (IMRT) of the Prostate (#8.01.47). We very much appreciate the extension of the comment period.

ASTRO appreciates that WellPoint supports the medical necessity for using IMRT in the primary treatment of localized prostate cancer to doses of 75-80 Gy, and we agree with this component of the policy.

Regarding the issue of post-prostatectomy radiotherapy, ASTRO disagrees with the current policy and believes there are certain conditions under which IMRT would be medically necessary. The evidence in support of this belief arises from several major published sources.

First, there are relevant important data originating from the Quantitative Analysis of Normal Tissue Effects in the Clinic (QUANTEC) Project. Briefly, QUANTEC was a collaborative effort that involved more than 100 radiation oncologists, medical physicists and radiobiologists. The goal was to catalogue and analyze the entire body of published literature that relates quantitatively the dose of radiation to normal tissues to the risk of normal tissue toxicity. The work took more than two years to be completed, and an entire issue of the International Journal of Radiation Oncology, Biology, Physics was devoted to the 24 individual papers generated (Vol 76, Issue 3, Supplement1, March 2010).

The analysis “Radiation Dose–Volume Effects in Radiation-Induced Rectal Injury” was a thorough review of the available dose/volume/outcome data for rectal injury. The panel, who analyzed more than 30 studies of the relationship between radiation dose and volume treated to risk of complications, concluded that the volume of rectum receiving more than 60 Gy (V60) was an especially robust indicator of the risk of toxicity. The recommended dose limit was to restrict the
V60 to less than 35% of the rectal volume in order to contain the risk of grade 2 or higher late rectal toxicity to less than 15%. The paper provides explicit instructions on how to outline the rectal volume in this setting: it should be contoured from above the anal verge to the turn into the sigmoid colon, including the rectal contents.

Generally, the superior limit is where the bowel moves anteriorly, close to the inferior level of the sacroiliac joints, and the inferior limit is commonly at the bottom of the ischial tuberosities. Thus, ASTRO believes that IMRT is medically necessary whenever the V60 of rectum, defined in this manner, exceeds 35% in the setting of post-prostatectomy RT given by 3D conformal methods. The principal motivation for requesting this consideration is patient comfort and safety, defined as reduction in the risk of late toxicity.

The reason it is necessary to treat the region of the prostate bed to doses of at least 60 Gy in the post-operative or salvage setting is based on important level I evidence showing a survival benefit to the use of radiotherapy. In a 431 patient randomized study conducted by the Southwest Oncology Group, patients with a pathologic T3 prostate cancer following radical prostatectomy received either immediate post-operative RT or were observed closely without adjuvant therapy (Thompson et al, J Urol 2009). Overall survival was significantly improved with the use of immediate RT (hazard ratio 0.72; 95% CI 0.55, 0.96; p = 0.023). Importantly, the dose used to achieve this overall survival benefit was 60-64 Gy, which establishes the standard minimum dose considered appropriate in this setting. And with the use of doses in that range or higher, it is common to produce a rectal V60 above 35% with the use of conventional 3D conformal methods, necessitating the use of IMRT to avoid this problem.

The second source of support for the request to consider post-prostatectomy IMRT medically necessary arises from published clinical observations where IMRT proved advantageous relative to conventional 3D conformal techniques. In a study of 172 consecutive patients with prostate cancer that were post-operatively irradiated with adjuvant or salvage intent, 81 patients were treated with three-dimensional conformal radiation therapy (3DCRT), while the remaining 91 were treated with IMRT (Alongi et al, Radiother Oncol 2009). The patients treated with IMRT experienced a decreased risk of acute toxicity. The crude incidence of grade 2 or higher toxicities were as follows: genitourinary toxicity, 12.3% vs. 6.6% (p = 0.19) in favor of IMRT; lower gastrointestinal toxicity, 8.6% vs. 3.2% (p = 0.14) in favor of IMRT; and upper gastrointestinal toxicity, 22.2% vs. 6.6% (p = 0.004) in favor of IMRT.

In summary, ASTRO requests a modification of this policy to state that IMRT is medically necessary for post-prostatectomy radiation therapy whenever the rectal V60 exceeds 35% with 3D conformal techniques and IMRT achieves at least a 10% absolute reduction in rectal V60.
Thank you for your consideration of ASTRO’s comments. Should you have any questions please contact Marsha Kaufman, ASTRO Director of Health Policy at 800-962-7876 or via email at marshak@astro.org.

Sincerely,

Brian Kavanagh, MD  Gregory Patton, MD
Chair, Regulatory Committee  Vice-Chair, Regulatory Committee

cc:  Thomas Eichler, MD
     Joel Cherlow, MD, PhD
     David Beyer, MD
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References: