Choosing Treatment for Stage I Seminoma: Who Should Get What?

August 13, 2009
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Lawrentschuk and Fleshner accurately depict the difficulty in choosing among observation, prophylactic radiation, and adjuvant chemotherapy for clinical stage I testicular seminoma. The physician has competing priorities of avoiding unnecessary treatment while minimizing the overall burden of both therapy and surveillance testing. The patient has to contend with defined risks that exist with any of the three options.

Primum Non Nocere: First, Do No Harm

The authors conclude that surveillance is the least morbid option for management of men with clinical stage I seminoma. On this point we agree—approximately 80% of such patients are already cured and would be treated unnecessarily in the adjuvant setting. Both radiotherapy and chemotherapy are known to cause second malignancies and accelerate cardiovascular illness.[1] These strategies also pose a risk to fertility, although it is not as well defined. Patients place a high value on the avoidance of morbidity from unnecessary treatment and are generally accepting of this approach, especially when they are reminded that there is no survival advantage associated with either form of adjuvant intervention.

Evidence-Based Strategies

There are, however, patients for whom surveillance is not the best option. Although this group is most commonly designated as “poorly compliant,” other patient characteristics need to be considered, such as anxiety about the recurrence risk and financial barriers to regular follow-up. For this group, an evidence-based method is appropriate for choosing between radiotherapy and chemotherapy. Data from a large randomized trial[2] of such an approach do not show a significant difference between modalities for overall survival, recurrence rate, second malignancies, cardiovascular disease, or infertility.

Lawrentschuk and Fleshner correctly point out that there are more long-term follow-up data for radiotherapy than for the more recently introduced chemotherapy option, and they therefore give radiotherapy the favored status. Other differences to consider are the pattern of recurrence, cost, convenience, and risk of second primary testicular cancer. The pattern of recurrence is more predictable for radiotherapy, being exclusively outside the field (sparing the retroperitoneum). Adding this to the disparity in long-term follow-up, we agree that radiotherapy is still the standard, with single-dose carboplatin chemotherapy providing a valuable second option for patients who have a contraindication or refuse to accept radiotherapy.

We hasten to acknowledge that reasonable people do recommend single-dose carboplatin over radiotherapy on the basis of cost and convenience. Preliminary data suggested a reduced risk of second primary cancer in the contralateral testis (0.3%),[2] although a subsequent report found it was higher (4%) at a median follow-up of 9 years.[3] For a young man who has lost one testicle already, the relative value of preserving his remaining testicle may be important to consider. Whether or not the risk of a second germ-cell malignancy is decreased requires confirmation, as it might only have been delayed in patients treated with chemotherapy.

Does Cost Matter?
In a study published in 1996, Sharda et al.[4] concluded that the average total cost of observation in this setting over 5 years was $27,233 per patient, whereas the average total cost of adjuvant radiotherapy and follow-up was only $19,557. When the authors chose to look at the institutional reimbursement rates for the University of Wisconsin, they found that the average reimbursement for a patient who underwent observation was $20,487 and the average reimbursement for adjuvant radiation therapy was $14,722. The increased costs are due to expensive computed tomography (CT) scans that are required with active surveillance but not in adjuvant radiotherapy follow-ups. Since there is no difference in survival outcomes, the policy of surveillance generates 39% more medical costs per patient after 5 years. Buchholz et al.[5] concluded that an average of 600 CT scans were performed to detect a single recurrence and that the estimated cost for this detection was $708,000 in the private sector and $367,200 for Medicare patients.

In the United States, the majority of men who are at risk for developing seminoma receive either health insurance from their employer or at least some form of employer discount or sponsorship. Since most Americans change jobs multiple times throughout their lives, health-care coverage is not guaranteed. Within the 2-year span of 2004 to 2005, nearly 82 million Americans did not have insurance at some point,[6] and there are currently more than 40 million Americans who lack health insurance.[7] Surveillance is not a viable option for men faced with such financial uncertainty, and they should receive adjuvant radiotherapy, even if they would be reliable for follow-up.

In Europe and Canada there is less individual liability, but a greater emphasis on holding down the cost of cancer treatment for the health-care system. A policy of administering adjuvant intervention to all patients could save on the cost of follow-up imaging and the treatment of recurrences. Lawrentschuk and Fleshner point out that the recommended frequency of imaging and follow-up is the same for patients receiving adjuvant chemotherapy or surveillance, but chemotherapy is probably associated with less cost than adjuvant radiotherapy or treatment of recurrences after surveillance.

Summary

We agree that physicians should choose active surveillance for their patients if they have the means to afford health insurance and are relatively stable within their careers. Prophylactic radiotherapy should be offered to patients who need a relaxed follow-up schedule for financial, emotional, or compliance reasons. For adjuvant carboplatin, longer follow-up data are needed to better define survival, long-term toxicities, frequency of second primary testicular cancers, quality of life, and cost to the health-care system.

Financial Disclosure: The authors have no significant financial interest or other relationship with the manufacturers of any products or providers of any service mentioned in this article.

References:

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