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Leuprolide Acetate

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For years, metastatic prostate cancer has been treated with androgen ablation therapy. A recent meta-analysis has demonstrated that surgical castration and pharmacologic castration with luteinizing hormone-releasing hormone (LHRH) agonists are equally efficacious.[1] These agents are also commonly used to treat locally advanced disease (in combination with radiation therapy) and biochemical relapse after definitive local therapy.

Originally, LHRH agonists required daily administration by subcutaneous or intramuscular injection. The development of depot formulations of LHRH agonists allows these agents to be administered every 3–4 months. This is certainly more convenient for patients and may result in improved compliance. Now, a once-yearly subcutaneous leuprolide acetate (leuprorelin) implant is available that delivers the agent at a controlled rate for one year. In therapeutic trials in advanced prostate cancer the leuprolide implant resulted in suppression of testosterone to castration levels for 12 months. The toxicity profile and effect on prostate specific antigen were similar to that seen with shorter acting preparations. Data is not available on the objective tumor response rates or survival.

What role should the once-yearly leuprolide implant play in the management of patients with prostate cancer? Because prospective comparison of the leuprolide implant with shorter acting depot preparations has not been performed, comments are largely based upon noncomparative data. It is likely that the implant and shorter-acting preparations are similar in terms of effectiveness. For certain patients, the implant may be advantageous in terms of compliance and convenience. However, most patients with advanced prostate cancer need regular clinical evaluations and so receiving a shorter-acting depot preparation at these visits is usually straightforward. The insertion and removal of the implant requires a procedure, albeit a simple one. If the ongoing Southwest Oncology Group randomized trial[2] demonstrates an advantage for intermittent versus continuous androgen ablation therapy, delivery of intermittent therapy using the once-yearly implant may be more complicated than with standard shorter-term intramuscular injections.

The leuprolide implant represents an additional androgen ablation option for patients with prostate cancer. Although there is no evidence that the implant is superior to the intramuscular depot injection in terms of efficacy or side effects, some patients may benefit from the convenience of the approach. ▲

References

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