The increasing number of patients on chronic renal replacement therapy translates to additional patients living long enough to develop a malignancy. For the most part this population will also be elderly, adding the nuances associated with practicing oncology in a geriatric population. As discussed by Eneman and Phillips, the use of chemotherapeutic agents in patients with end-stage renal disease (ESRD) is complicated by both practical and ethical issues.

Lack of Data, Few Guidelines

There are few guidelines for cancer screening in this group of patients with such a significant chronic disease. Comorbidities that will significantly shorten the life span of those affected must alter screening. That said, is it worthwhile to do a prostatespecific antigen (PSA) assay and digital rectal examination in an asymptomatic patient who has been on dialysis for years? Staging of newly discovered or existing cancers may be less than optimal when the use of contrast material in diagnostic imaging is contraindicated due to the nephrologist's strong desire to preserve residual renal function, even in ESRD, for obvious benefits. Perhaps because of the longestablished use of dialysis, we have a relative wealth of information concerning drug utilization and modification in renal disease, especially compared to the setting of chronic liver disease. Unfortunately, we lack data on oxaliplatin (Eloxatin), docetaxel (Taxotere), and pemetrexed (Alimta), all recently approved agents likely to see use in common malignancies. As Eneman and Phillips suggest, the development of a registry to store accumulating data from individual treatments could be very useful.

Other Treatment Complications

In patients on renal replacement therapy, as the authors indicate, life expectancy is shorter than in the normal population and rehabilitation potential is very low, especially in the elderly. Thus, the physician must carefully consider the risk-benefit ratio when treating such a patient in the adjuvant setting, where a surgical cure may have already occurred. This is the appropriate place to clearly distinguish "curative" from "palliative" therapy. Simply because chemotherapy can be given does not mean it should be given. Patient selection is key. Treatment of metastatic disease may be complicated by the difficulty in assessing performance status in an individual on hemodialysis, during which activity levels may vary significantly from day to day and can be altered suddenly due to therapy-related complications or treatment overlap of uremic symptoms and cancer chemotherapy side effects. Another issue calling for clear guidelines was not addressed in this review: How do we determine the eligibility and timing of kidney transplant in a patient with ESRD who is on dialysis and has been successfully treated for cancer?

Multidisciplinary Approach

Although scheduling issues for patients receiving hemodialysis three times a week will be formidable, there is almost an imperative need for a multidisciplinary meeting, at which the oncologist, nephrologist, nurses, social worker, and other involved specialists can explain treatment options to the patient and family. The nephrology team can have input into the administration of...
Chemotherapy (location, scheduling, and access) and the timing in relation to dialysis. Here, too, possible responses to chemotherapy and its impact on quality of life can be discussed. In my experience, the time spent in such a conference easily offsets the many phone calls from all interested parties.

If treatment is successful, additional conferences may not be necessary. Disease progression, however, will require a second such meeting. Determining that a patient's treatment has failed and that he or she is now a candidate for hospice quickly raises the question of whether or not to continue dialysis—a thorny ethical issue.

**Management Principles**

In summary, I suggest several general principles:

1. Look for reversible causes of renal dysfunction.
2. Know the metabolism and excretion of the proposed drugs.
3. Know the prognosis of the renal disease.
4. When possible, pick drugs with alternate routes of metabolism.
5. Modify doses appropriately.
6. Take a multidisciplinary approach to cancer therapy.
7. Report responses and toxicities to increase our database.

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