

EDITORIAL

Therapy in Nuclear Medicine—A Bone of Contention

The article by Eary et al. in the current issue of the *Journal* again focuses attention on the changing role of therapy in nuclear medicine. In this article, the biodistribution and dosimetry for ^{153}Sm -EDTMP, an agent proposed for palliation of bone pain, are reviewed. The interest in the palliation of bone pain secondary to¹ metastatic disease is not new in nuclear medicine. Virtually every review article on the topic opens recounting the history of ^{32}P in this clinical setting. Clearly, the newer therapeutic agents will not suffer from the same lack of acceptance as ^{32}P . Palliation of bone pain in patients with metastatic cancer using radionuclides will be a viable form of treatment. Dosimetric, availability, duration of response and cost issues will ultimately dictate which radionuclide finds widespread use. The entire topic of therapy for malignant bone pain, and indeed radionuclide therapy in oncology patients, poses challenges for nuclear medicine that are significant.

Most therapy in nuclear medicine today is for benign thyroid disease using ^{131}I . Most often, these patients are healthy with a benign disease. The competition for the small number of patients involved (only about 10,000 therapeutic procedures per year) is light and the outcome uniformly good. Complications are rare and, for the vast majority of patients, a single treatment is adequate.

Even those patients treated for metastatic thyroid carcinoma, an even smaller group, do well. There is an old saying, "thyroid carcinoma patients often outlive their physicians." As in the benign disease category, the vast majority of patients are asymptomatic and easy to manage. The low frequency of therapy, even in those institutions with large volumes of thyroid

cancer patients, aids in the overall dynamics of therapy.

As we enter an era where large numbers of patients with incurable disease turn to radionuclide therapy for alleviation of their bone pain, we will encounter a different set of challenges. Pain is a highly subjective area. Analgesic trials find up to a 30% incidence of placebo effect. The atmosphere in which therapy is administered has a relationship to patient outcome. Where the therapist is caring, spends time with the patient and offers reassurance and support, outcomes tend to be better than when those conditions are not met.

Overall, nuclear medicine has not been organized along traditional physician-patient interaction lines. Direct interaction with patients is not the typical model in nuclear medicine, except for thyroid disease. Diagnostic nuclear medicine, as practiced today, is similar to diagnostic radiology. However, if we are to successfully offer radionuclide therapy to oncologic patients, we must carefully plan the environment in which it is to be delivered. A change in our practice style toward a more traditional physician-patient model will benefit all who are involved. Our colleagues in interventional radiology have already learned these lessons. The successful interventionalist is part of a management team and becomes one of the patient's physicians.

What are the implications of these changes? The first of these is the greater involvement of the nuclear medicine physician in the management decision-making process for the patient. Acceptance of the nuclear physician as a member of the patient management team will be affected by the desire and expertise he or she brings to the endeavor. The amount of time invested by nuclear physicians in participation in oncologic management conferences will need to be increased. An understanding of the

other therapeutic modalities available for control of bone pain and where our procedures fit into the complete picture is imperative.

At the present state of knowledge, not all patients with pain secondary to bony malignancy are automatically candidates for radionuclide therapy. In the patient's best interest, other therapeutic modalities may be superior in given clinical situations. Only by participation in the decision-making process can the nuclear physician assure the best outcome for the patient.

Another implication is increased patient interaction. By participating in the decision-making process and agreeing that radionuclide therapy for palliation of pain is appropriate to the given clinical setting, the nuclear physician then assumes a direct patient care role. This includes counseling the patient. Because we have treated these patients over the years, their needs become obvious. The patient and his or her family need and expect information on proposed therapeutic procedures. Someone must spend the time explaining the therapy, its benefits, potential failures, and, when necessary, its risks. Once you agree to treat a patient, the patient becomes yours as well as the referring physician's.

The obligation of the nuclear physician to follow the patient, arrange for appropriate testing as related to the therapeutic procedure and maintain contact with the patient over time derives from the decision to treat. Questions will arise about whether retreatment is appropriate and what the interval for retreatment should be. These questions also involve the judgment of the nuclear physician as part of the management team.

Patients and their families will have questions. Some of these will occur after a consultation or before the actual decision to treat. Others will occur after treatment. The availability of

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a nuclear medicine physician to answer these questions is essential. The willingness to take after hours phone calls and to promptly return patient phone calls becomes part of a managing physician's responsibility.

As it turns out, most nuclear physicians are well versed in patient management issues. Nuclear medicine practice, ranging from pediatrics through orthopedics to neurology, cardiology and oncology, results in experienced, clinically oriented physicians. We are equipped to fill the role of direct patient care as well. Our expertise in radionuclide therapy methods, as well as the diagnostic methods used in screening for therapy, offers us unique advantages. The greatest disadvantage to the nuclear physician in therapy is practice style.

What modifications of practice style should we be considering to offer appropriate therapeutic services? Perhaps the easiest way to start is to designate a specific individual as coordinator for therapeutic procedures. This person need not be a physician and in many nuclear medicine departments may represent the nurse assigned to nuclear medicine.

The coordinator's responsibilities are to assemble the relevant data for decision making on therapy for a given patient. A coordinator also ensures that the nuclear physician has all that he or she needs to participate in the decision-making process for therapy. Once a decision for therapy has been made, the coordinator can ensure that the patient passes smoothly through the nuclear medicine system. By acting as the interface between patient and physician, the coordinator can set up conference times for con-

sultation between the nuclear physician and patient. He or she also can arrange for appropriate laboratory testing to monitor the therapy. Coordinators and physicians also follow the patient to see how efficacious the therapy has been and whether any complications are occurring.

It is impossible to overemphasize the necessity of having a single individual as the contact for the therapy patient. Nothing is more frustrating for a patient than trying to track down a physician. This is especially true when certain physicians only work certain days in nuclear medicine or rotate between institutions. The coordinator provides the smooth interface that ensures that the patient's needs are identified and that the physician responds to those needs.

Although the model may sound unique, private medical practices function commonly in this manner. When calling a physician's office, the patient rarely reaches the physician directly. A nurse or other individual prescreens the call and may provide all the necessary information and advice the patient needs. When the matter requires the physician's attention, he or she is available to deal with the issue. This model can work equally well in nuclear medicine for therapeutic procedures.

I have saved the thorniest issue for last. That is the issue of turf. If we have learned nothing from the cardiovascular nuclear medicine experience, we should have learned that we cannot hide behind regulations and regulatory agencies to protect our practices. Only by offering competent compassionate service can we expect to compete with other physicians who

may wish to offer similar services. There is no doubt in my mind that other medical specialties will find the palliation of bone pain an attractive adjunct to their practices. Many of these individuals already possess isotope licenses. Others will find it no more difficult to obtain such licenses than have many cardiologists.

It is my belief that the training of nuclear medicine physicians in radiobiology and the safe handling of radionuclides and diagnostic procedures in oncology makes them the logical choice to be participants in therapy for bone pain. However, taking the realist's point of view, therapy for palliation of bone pain will be given by those physicians who best provide the service. This is not an area where one can inject the patient, say goodbye and consider oneself a therapist. As more complex therapeutic procedures are introduced, nuclear physicians must continue to adapt to the needs of the patients and the referring physician community. Palliation of bone pain is a test of that adaptability. If we successfully modify practice styles and develop relationships with the primary physicians as therapists, as well as diagnosticians, then therapy in nuclear medicine has a bright future. If, however, we serve as nothing more than glorified technicians who inject radioisotopes, then our need as participants in the procedure will quickly be recognized as minimal. As is so often said in sports, "our future is totally in our hands."

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