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General Comment

Introduction

1. Patient concerns are varied, but are usually sensible after discussion with the patient. Every patient's circumstances are different from others. BUT, we find it essential that patients be interviewed well before treatment so that any modifications to living circumstances can be arranged ahead of time.

2. We are concerned that the following factors are not given adequate consideration:

a. Patients must be counseled many days prior to treatment to assure that they can prepare their living quarters:

- i. Children might have to stay with relatives
- ii. Beds might have to be rearranged
- iii. Time off work must be considered
- iv. Toilet facilities might have to be shared differently
- v. Meals might have to be rearranged
- vi. Every patient is different and must be treated uniquely

b. Thyroid cancer treatment versus non-cancer treatment

i. While cancer patients receive high doses (>100 mCi) of I-131, they have very low uptake and eliminate

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most within 72 hours. Thus the release concern must focus primarily on the first three days, with secondary concern for low level exposure rates during the rest of the time.

ii. For hyperthyroid patients, exposure rates are low, but they remain a very long time due to slow elimination of iodine from the thyroid. Thus, restrictions in lifestyle should be much longer for these patients.

c. Infants who are held: Infants that are held are very close to the patient's thyroid. Inverse-square-law amplifies the low exposure rates. Thus patients should be advised to refrain from holding infants and small children for as long as it is necessary to assure that chronic low-level exposure does not build up to exceed limits. To avoid exposures exceeding limits, a stay in the hospital will not be practical and advice on this behavior must be clear.

d. Children who sleep with potential patients: Many patients sleep with children in the same bed. While it is common practice to advise them not to do this, the question remains for how long must they refrain? Because the small child can be in close proximity to the radioactive thyroid for an extended period (8 hours per night and this is amplified if the parent naps with the child) patients must keep their children in separate sleeping quarters for an interval sufficient to keep doses below limits. This might be for a few months.

e. Proximity of sleeping quarters to others: If a patient sleeps in a bed next to a wall where others sleep in beds on the other side of the wall, dose rates over night can accumulate to substantial levels. This should be avoided.

f. Changes in living conditions once the patient is released from restricted living behavior: Patients change their behavior once restrictions are lifted. This is especially true for children who might want to make up lost time by spending more close-time with their parent or guardian. Residual dose from the remaining I-131 builds to a good fraction of the allowable limits. This should be considered in release instructions.

The following is what we do:

3. For less than 7 mCi of I-131 we give standard form. We advise the patient that more restrictions will apply if they are treated with a high dose. This is important to help patients understand why restrictions are different even though the same medication is given.

4. If a patient is treated with a dose > 7 mCi but less than 33 mCi for hyperthyroidism, the following data are collected:

a. Date of Administration:

b. 24-hour percent uptake :

c. Activity (mCi):

d. Gender:

e. Are any live-in people pregnant?

f. Does patient have small dependent children in the family?

g. Does patient's job require work around small dependent children?

h. Can patient avoid contact with their children for 1, 2, or 3 days?

5. Answers to the above questions are entered into a program that generates instructional information based on the answers.

6. A patient who is treated for thyroid cancer completes a questionnaire ahead of time and is interviewed by a nuclear medicine technologist using a check-off list of questions.. For patients with extremely low occupancy factors, the patient can be released with any allowable releasable dose. Any answers suggesting a slightly

elevated occupancy factor results in a discussion to determine if modifications to living conditions can be altered to reduce occupancy. If not, then the data are entered into a program that assesses the modifications to their living circumstances that will be necessary to approve release for the dose that they will be administered. If conditions are not met, the patient is referred for in-patient treatment.

7. Advice given patients should be tailored to the patient. The downside of generic advice is that it provides the patient with more information than they likely need and requires that the patient filter the information for their circumstances. This is not likely to be met with satisfactory compliance.