U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

Reliability of Radiation Safety Instructions for Patients Released Following I-131 Therapy

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Assumption

Patient release is safe because patients are receiving and following good instructions to minimize radiation exposure to others.

Two problems

- **Timing of instructions to patients**
- **Quality of instructions**

Patient Testimony

“I am due to have my RAI the first week in August … I have a million and one questions on it and all I get told by my nuclear medicine dr is I will get instructions the day I get the RAI…I will be coming home right after receiving it. Asked to be admitted to the hospital ~ was told it was not necessary (I have 4 children, married and live in an apartment).”[1]

Patient Testimony

“I've noticed is that patients are often given vague or inadequate instructions. Radiation safety is a difficult subject to boil down to a page or two of instructions. This seems to lead to much patient confusion and stress… Add some emotion, stress, fear, hypo[thyroid] symptoms and you are asking for problems. Luckily I have a background in radiation safety or I would have been totally blindsided by the precautions that were expected. There has to be a better way of conveying the message!”[1]

Patient Testimony (2 patients with same dose of ^{131}I)

"So your Dr. told you 1 week?? [isolation] Mine said I am good to go back to work on Monday??? [5 days after treatment] I teach Kindergarten!!!! I feel like the guidelines are so different from Dr. to Dr. - it seems as though they would be the same??? I am erring on the side of safe and staying away for a week."[1]

Patient Testimony

10 year old was treated at a university hospital. Mother was given virtually no instructions for post-treatment period, other than to stay far away from patient in the car on the long drive home. With another young child at home, mother was given no instructions to isolate the patient from her sibling, or about solitary sleeping or bathroom use, eating utensils, and laundry. Suspicious re lack of precautions, mom accessed ThyCa for information. She sent her younger child to relatives for 3 days.[6]

Greenlee's survey: protections for breastfeeding mothers and infants

- 7% of respondents recommended avoiding breast-feeding only when the therapeutic activity was >30 mCi, and half did not see a need to avoid breast-feeding beyond the first 48 hours after radioiodine treatment.[4,5]

American Thyroid Association Breastfeeding guidelines

- **ATA guidelines state breastfeeding must stop 6 weeks prior to treatment and not be resumed (safe after subsequent pregnancies) for the protection of both mother and child.**

In Summary

We should not rely on the assumption that the public health is protected by assuming that the best case scenario of patient care is universally applied.

The assumption of adequate and timely patient instruction must be verified.

References

1. www.Inspire.com

2. Richard T. Kloos, M.D. (2011) Survey of Radioiodine Therapy Safety Practices Highlights the Need for User-Friendly Recommendations. Thyroid 21:2 97-99.
3. Greenlee MC, et al. (2011) Current safety practices relating to I-131 administration for diseases of the thyroid: a survey of physicians and allied practitioners. Thyroid 21:2 151–160.
4. Weil notes. Interview at ThyCa conf. 2012

Abbreviations and Acronyms

- **RAI: Radioactive Iodine**
- **ThyCa: Thyroid Cancer Survivors Association**
- **mCi: millicurie**
- **mSv: millisievert**
- **ACMUI: Advisory Committee on the Medical Uses of Isotopes**
- **Nuc Med: nuclear medicine**
- **ATA: American Thyroid Association**