

# Ten-year Results of I<sup>131</sup> Therapy of Hyperthyroidism<sup>\*†</sup>

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Radioiodine (I<sup>131</sup>, 8d half life) made in the atomic pile at Oak Ridge was released for general use by the United States Atomic Energy Commission in July 1946. It was employed almost immediately in the treatment of hyperthyroidism, following the lead gained from the few patients treated earlier with this agent by Soley working with Hamilton and Lawrence, and the small series of patients given I<sup>131</sup> (12h half life) by Hertz and by Chapman. The present report summarizes our 10-year experience with I<sup>131</sup> given for this purpose.

During these past 10 years the results of various groups have been presented after varying intervals of experience. Also, a serious effort has been made to define the relative roles of radioiodine, surgery, and chronic antithyroid drugs in the treatment of toxic goiter. Nevertheless, there is need for the presentation of results with I<sup>131</sup> on a wide scale to permit both the advantages and the drawbacks of the method to be defined and compared with those of the other modalities of treatment.

The present report is based on the results in a series of 525 hyperthyroid patients treated and followed by the senior author at the Presbyterian Hospital in New York between October 1946 and July 1955 and observed through June 1956. Throughout the study the physical aspects pertaining to I<sup>131</sup> therapy were supervised by E. H. Quimby. At the follow-up visits the eyes were examined routinely, the majority by R. M. Day, the rest by J. Kennedy and R. Nichols who collaborated in the initial phases of the study.

The results presented herein confirm the already established fact that I<sup>131</sup> is a highly efficacious agent for the medical treatment of hyperthyroidism. Unfortunately, however, the negative features of the use of the method still remain a source of trouble.

## METHODS

All patients initially were subjected to a complete medical work-up. Only patients with well-documented hyperthyroidism were treated with radioiodine, and these were selected for therapy with this modality essentially according to principles outlined elsewhere. Patients younger than 40 years of age were not treated with I<sup>131</sup> except when there was recurrence of toxicity following surgery or when other methods were contraindicated.

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