

On the basis of this experience, we would like to raise the following points with regard to the article by Sisson et al. (1):

1. We agree that [<sup>125</sup>I]MIBG has a place in the treatment of neuroblastoma micrometastases and bone marrow infiltration, particularly as the results of [<sup>131</sup>I]MIBG treatment under these circumstances are poor. We have used lower activities than Sisson et al., but have observed no toxicity whatsoever. The use of [<sup>125</sup>I]MIBG for therapy, especially at higher doses, does pose a problem of radioactive waste, which requires responsible attention from nuclear medicine specialists.
2. In contrast to Sisson et al., the images accompanying this letter demonstrate that post-therapeutic scintigraphy using [<sup>125</sup>I]MIBG is feasible and that the images obtained are also of acceptable quality.
3. In discussing the rationale for using [<sup>125</sup>I]MIBG to treat neuroblastoma, Sisson et al. have overlooked the fundamental observations by Smets et al. (5), which indicate the most promising basis for this radiopharmaceutical, particularly in neuroblastoma, in that extragranular storage contributes significantly to total MIBG retention. The cytoplasmic and homogeneous distribution of [<sup>125</sup>I]MIBG may result in a lethal radiation dose to the nucleus.
4. Finally, we do wish to stress that by pursuing [<sup>131</sup>I]MIBG therapy at our institute (230 therapeutic applications in 75 patients to date), we have observed complete remissions and long-term responses, despite the fact that most of these patients had progressive Stage IV neuroblastoma and were only treated with [<sup>131</sup>I]MIBG after all other treatment options had failed. We are convinced of the efficacy and safety of [<sup>131</sup>I]MIBG in children, provided that the bone marrow is not involved by tumor. The observed response in advanced neuroblastoma, the non-invasive nature of the procedure, and the high metabolic activity of untreated tumors have permitted us to use preoperative [<sup>131</sup>I]MIBG successfully instead of combination chemotherapy for inoperable neuroblastoma (6). The advantages of this approach are that the child's general condition is usually good prior to surgery and that chemotherapy is reserved to treat minimal residual disease, when it is likely to be most effective. Iodine-125-MIBG therapy may also be indicated in these circumstances.

## REFERENCES

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**REPLY:** We thank Dr. Hoefnagel and colleagues for the references to their work. We, too, reported part of our work in abstract form (Eur Assoc Nucl Med Congress, 1989; *J Nucl Med* 1990;31:804) but elected not to quote abstracts in our recent paper (1). Moreover, this paper described the initial toxic effects of [<sup>125</sup>I]MIBG as a single agent in a dose-escalation program which differs from the apparent purpose of Hoefnagel et al.

Images of neuroblastoma can be made with [<sup>125</sup>I]MIBG as shown by Hoefnagel et al. But quantification of MIBG within regions of the body, including the tumors under treatment, has been difficult using [<sup>131</sup>I]MIBG, and this goal becomes a formidable challenge when MIBG is labeled only with <sup>125</sup>I.

We agree with the Dutch investigators that [<sup>131</sup>I]MIBG has effects on neuroblastoma. However, the optimum use of [<sup>131</sup>I]MIBG, and of [<sup>125</sup>I]MIBG, will remain uncertain until there is a controlled trial of therapy with these agents.

Our hypothesis for the treatment of neuroblastoma with [<sup>125</sup>I]MIBG is: at acceptable levels of toxicity, [<sup>125</sup>I]MIBG will be more effective in destroying micrometastases than [<sup>131</sup>I]MIBG. We have shown that per mCi or MBq administered [<sup>125</sup>I]MIBG is less toxic (1). Nevertheless, [<sup>125</sup>I]MIBG will be toxic as doses are increased, and it is likely that optimum treatment of neuroblastoma will require the highest doses possible. Therefore, a dose-escalation study of [<sup>125</sup>I]MIBG is a prerequisite to testing our hypothesis. Such a study is also a necessary foundation for optimum therapy with [<sup>125</sup>I]MIBG under any circumstance.

## REFERENCES

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## Effective Background Correction on Separate Technetium-99m-DTPA Renal Clearance

**TO THE EDITOR:** In a recent paper on the measurement of individual kidney glomerular filtration rate (iGFR) from the technetium-99m-DTPA (<sup>99m</sup>Tc-DTPA) renogram, Piepsz