The Localization of Indium-111-Leukocytes, Gallium-67-Polyclonal IgG and Other Radioactive Agents in Acute Focal Inflammatory Lesions

TO THE EDITOR: With great interest, we have read the results of the excellently designed animal study presented by McCaffe et al. in a recent issue in which eight different radiotracers for localizing experimental abscesses in dogs were investigated and the local uptake ratio was calculated (1). The final results of the study demonstrated the superior quality of 111In-oxine-labeled granulocytes especially in comparison to the other investigated radiopharmaceuticals. A comparison with monoclonal mouse antibodies directed against the human granulocyte epitope NCA-95, labeled with 99mTc (Mab BW 250/183, Granulozyme®, Behringwerke AG) or 125I (Mab 47, Granulozimi®, Mallinckrodt), was impossible due to species-specificity.

At our institutions, like in many others in Europe, 99mTc-labeled Mab BW 250/183 is frequently used for clinical applications concerning infection and inflammation. The simple in-vivo use, a 99mTc label, the logistic advantages and the lower radiation burden are important facts that emphasize this modality from a clinical point of view. The sensitivity, specificity and accuracy are similar to the reported data from studies with 111In-oxine granulocytes (2–9). Those studies include infections of the musculoskeletal system.

In regard to the limitation in transferring data from animal experiments to humans and the clinical results of anti-NCA-95, we cannot agree with the general conclusion of the authors that 111In-granulocytes are superior to other agents for localization of infectious lesions and that other options only play the part of a substitute. In our opinion, isolation and labeling procedures become more unpopular, because they are time-consuming procedures and there is the risk of infection from the AIDS virus.

Indium-111-oxine-labeled granulocytes have been the gold standard for many years, but the development of new monoclonals has become successful and seems to be as effective in clinical routine. An important future task will be to list the various indications for localizing foci of infections.

REFERENCES

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REPLY: We thank Dr. Sciuk for his interest and kind remarks about our manuscript. Many of us in the U.S. have been following the interesting literature on the Behringwerke AG 99mTc-monoclonal antibody (Mab) BW 250/183 originally developed by Bosslet al. (1). Although other anti-granulocyte Mabs are under development in Europe and in the U.S., none are available