Introduction to the Seventh Conference on Radioimmunodetection and Radioimmunotherapy of Cancer

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Radioconjugated antibodies, peptides, and other targeting molecules have expanded in clinical use over the past years, as is evidenced by the proceedings of the past six conferences devoted to this subject (1–6). This is confirmed by the observation that one-third of the papers in this supplement are clinical studies. Radioconjugated antibodies and peptides are progressing through multicenter clinical trials to regulatory filings and will soon become part of the therapeutic armamentarium of oncology. Although this has taken over 20 years to mature, this is still a young discipline that is being continually reengineered with the contributions from advances in immunology, immunochemistry, molecular biology, radiochemistry, and peptide chemistry. New targeting antibodies and peptides are being devised, different and better radiopharmaceuticals and conjugation chemistry are being applied, and critical clinical studies, including rigorous pharmacokinetic and dosimetry protocols, are being implemented. The results are not only promising for the more radiosensitive hematological neoplasms but also for a number of solid tumors. But even more exciting is the growing evidence that the antibodies previously considered as therapeutic delivery agents are becoming increasingly of interest as therapeutics by themselves—antibodies such as anti-CD20, anti-EGF, and anti-HER2/neu. The antibody dose used with the radioconjugate and the combination of radioconjugates with cytotoxic and radiosensitizing drugs, as well as certain cytokines, will certainly receive more attention and study in the future. As antibodies become more human through gene engineering and transfection methods, new biotherapeutic entities will be available for investigation and will make the human antimouse antibody response common to clinical trials, with murine monoclonal antibodies of just a few years ago, an event of the past. But it is premature to think that the new biological entities do not have other functional properties beyond being drug/isotope delivery molecules.

In the immediate future, the greatest impact of this new category of targeted radioconjugates is certain to be in nuclear medicine. Nuclear medicine is a dynamic, functional imaging approach that is witnessing the completion of the first century since Röntgen’s discovery in 1895, which ushered in the era of medical uses of radiation. Nuclear medicine has been a rapidly evolving medical discipline, combining a number of basic and clinical disciplines, from physics to internal radiation therapy. More recently, nuclear medicine is joining other medical disciplines in becoming more molecular in its focus, and one of the best examples is its collaboration with immunology and peptide chemistry in the development of more selective imaging agents and therapeutics, based on molecular targets and certain functional attributes of diseased tissues and cells. An example is the expansion of positron-emission tomography into diverse medical areas, from neurology to oncology. The prospect of combining this high-resolution imaging method with the specificity of certain targeting agents, such as antibodies, is already under study and should grow in clinical interest as we advance the chemistry and immunology of these agents.

The present Supplement contains 52 articles from the Seventh Conference held in Princeton, New Jersey, October 15–17, 1998, which spanned radiochemistry and radiobiology, physics and dosimetry, targeting, imaging, and therapy. I am grateful to the members of the Program Committee for chairing the sessions and reviewing many manuscripts. Special thanks are due to my cochairman, Gerald L. DeNardo, for sharing the burden and responsibility of organizing the conference and for chairing the Immunomedics Science Award committee. As in past years, Mrs. Lois Gillespie is the person most responsible for all of the details required for a conference and for producing the proceedings, not least of which is securing the manuscripts so that the publication will appear within a year of the presentations. Finally, the conference and its proceedings would not be possible without the scientific contributors, the generous support of the contributing companies listed, and a conference grant from the National Cancer Institute.

The reward for the efforts and tribulations in organizing an international conference that also involves the publication of its proceedings in full-length, peer-reviewed papers is in reviewing the final product just before and after publication. Occasionally, there may even be a compliment from a satisfied author or an interested reader. I have been fortunate not only in experiencing these rewards for the past six conferences since 1978 (1–6) but also in receiving some encouraging remarks from the editors of the journals that publish our supplements. I now await the response to these proceedings, which I hope will be of interest to the diverse readers of Clinical Cancer Research, especially those who are awaiting new opportunities for a more selective therapy of cancer and the prospect of combining radioimmunotherapy with other treatment modalities.

References

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