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Introduction

Thomas C. Jones

THIS SYMPOSIUM was designed to review recent information about the effects of recombinant human granulocyte-macrophage colony-stimulating factor (rhGM-CSF) as adjunctive therapy after cancer chemotherapy and after bone marrow transplantation, and to explore potential uses. Presentations by Drs Gerhartz and Antman examined key issues concerning clinical benefits of rhGM-CSF as currently used. Dr Gerhartz evaluated the problem of infection during cancer chemotherapy and summarised his experience that rhGM-CSF shortens the period of neutropenia and prevents the complication of infection in many patients. He points out that with the favourable efficacy data already available it is difficult to avoid use of cytokines, but he correctly stresses a requirement for carefully designed clinical trials to identify in which patients the maximum benefit is to be achieved. Dr Antman reviews the use of rhGM-CSF in enhancement of myeloid cell engraftment after bone marrow transplantation. She concludes that clinical benefit is observed based on fewer days in the hospital and a decreased use of antibiotics as a correlate of fewer serious infections, both yielding attractive consequences to the patient.

Correspondence to: Thomas C. Jones
Thomas C. Jones is at Sandoz Pharma CH-4002, Basel, Switzerland.

Dr Dexter and myself then explore new considerations for the use of rhGM-CSF as well as other cytokines. I review potential uses of anti-tumour agent, treatment of fungal and protozoal infections, use as a vaccine adjuvant, in wound healing and in providing support to the bone marrow microenvironment. This overview focuses on the role of the macrophage and its response to activation in these settings. It is clear that numerous new avenues for research and then clinical benefit are available for an intercell hormone such as rhGM-CSF. Dr Dexter explores the basis for synergistic actions of cytokines, including stem cell factors, GM-CSF, M-CSF and G-CSF in the survival and proliferation of haematopoietic cells. Stem cell growth factor is a molecule allowing survival of progenitor cells, while GM-CSF provided the growth stimulus. The future of combinations of cytokines in clinical use appears complex, but secure.

This symposium reminds us of the rapidity of the development of this field, of the clinical benefits of cytokines already demonstrated, and of the almost frightening explosion of new ideas resulting from recombinant gene technology. The question of how to best focus this explosion by carefully organised, relevant clinical trials remains a challenge.