

Introduction

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Cytokines, the intercellular information molecules, continue to capture our interest as a means for understanding the regulation of hematopoiesis, but, in addition, they have now entered the arena of medical care as therapeutic tools.

This symposium has been organized to place side-by-side presentations on the current status of the clinical use of hematopoietic growth factors with presentation of the continuing basic research into understanding the molecular interactions which take place during hematopoiesis. By this association we hope to gain insight into the realistic steps needed to move our present understanding into clinically helpful medications.

The first presentation, by Dr TM Dexter and Dr LV Fairbairn, focuses our attention on the importance of the bone marrow microenvironment, the stroma, and the role of cytokines as both growth and cell survival factors. The complexity of the interactive system reminds us all of the necessity for understanding the role of combinations of stimulatory and inhibitory cytokines if we want to use exogenous cytokines appropriately as they become available. Dr B Löwenberg and colleagues

provide a similar analysis of cytokines in hematological malignancies and summarize the first attempts to use our present knowledge of molecular interactions during disease to design methods for therapeutic intervention. Dr S Gulati and colleagues, and Dr M Engelhard summarize the present clinical uses of cytokines in the management of bone marrow transplantation and in chemotherapy approaches in lymphoma, respectively. These reviews allow us to see that in clinical medicine we have moved a long way in applying the new approaches, but there are many issues that need to be resolved. Among these issues are the role of dose intensification of cancer chemotherapy agents, effects of cytokines on remission rates and on patient survival, cost-benefit issues, and the potential for immunomodulation of the host response to lymphoma as a therapeutic tool.

Finally, Dr H Scarffe takes up the crystal ball and places in perspective the use of cytokines in medical care in the near future. It is an optimistic but realistic statement and confirms what is now very clear; cytokines are here to stay. How we use them may need considerable refinement but with careful attention important medical benefits could be realized.