Introductory Remarks

F.		Takaku
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Tokyo

Cytokines are proteins regulating a wide spectrum of physiological processes including the growth and differentiation of cells of the immune and hematopoietic systems. Some cytokines such as interferons have direct cytotoxic activity on cancer cells. Recent developments in biotechnology have made it possible to produce sufficient quantities of cytokines of suitable purity for clinical use, including cancer treatment.

Interferons were the first cytokines used in cancer treatment, and they are now the first-line drug for the treatment of chronic myelogenous leukemia and hairy cell leukemia. Meanwhile combining interferons with cytotoxic drugs is a challenging clinical research project in cancer treatment. Although interleukin-2 has limited clinical applications in cancer therapy, this cytokine has many interesting activities which necessitate further research.

Hematopoietic growth factors, which are mainly used as adjuvants in cancer treatment to reconstitute the bone marrow after chemotherapy, are expected to accelerate the release of hematopoietic stem cells into peripheral blood and may then be used for peripheral blood stem cell transplantation.

This special issue of Oncology has been planned to introduce the latest trends in the clinical application of these cytokines in cancer treatment. It is the editor's hope that through the articles that follow, readers will become acquainted with the most recent knowledge acquired in this field.