

# Introduction

**Mathias Freund and Sydney E. Salmon**

IN 1957, Isaacs and Lindenmann discovered an active substance that interfered with viral infection. They called this substance "interferon". A long time passed before interferon trials were started, at the end of the 1970s, and these were hampered by the shortage of natural interferon, early preparations being a "soup" of proteins containing less than 5% active protein. Systematic and extensive evaluation of interferons had to wait until recombinant material was made available with the advent of modern recombinant DNA technology. Following the initial wave of enthusiasm and the subsequent trough of depression, the beginning of the 1990s is an appropriate time for an update on the impact of alpha interferon in the fields of haematology and oncology.

Chronic myeloproliferative diseases, B-cell neoplasia, T-cell lymphomas, Kaposi's sarcoma, carcinoid, renal cell carcinoma and melanoma have all been successfully treated with alpha interferon. The effectiveness of alpha interferon in haematology and oncology has been shown to be mainly a result of its

antiproliferative properties. Immune modulation may be important in melanoma and renal cell carcinoma, which are immunogenic tumours, and it may also explain the effect of interferon in idiopathic thrombocytopenia.

Although the effect of alpha interferon is well defined by clinical response rates and even, in some diseases, by molecular responses, there is still much work to be done. As yet we know little about the effect of interferon on patient survival in most of the indications. The value of sequential and combination therapy with cytotoxic agents and other cytokines, such as interleukin-2, has also to be defined. In addition, we need to know more about the basic mechanisms of action of interferon.

Alpha interferon has not yet come of age. It is still a new substance, the subject of continuing investigations. We hope that these proceedings will be a contribution towards increasing our knowledge and opening our eyes to the questions and challenges that lie ahead.

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