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BOOK

Viral Therapy of Human Cancer

JG Sinkovics, JC Horvath (eds), Marcel Dekker,
New York, 2005, pp 1-829

One of the most widely discussed problems in cancer research is the „oncolytic viral therapy". Since abundant evidence was accumulated in the last decades in relation to the oncogenic potential of certain viruses in both animal and human malignancies, it is reasonable to ask the question: are there viruses also capable of exerting a curative effect upon human tumorous diseases?

Although the answer to this question seems to be very difficult, the Editors of this volume, J. Sinkovics and J. Horvath – being highly knowledgeable experts – try to find a comprehensive, valid response. No doubt, they are the competent persons for this task possessing a life-long research experience in the field.

Their book is recapitulating the history of the oncolytic virus therapy from the beginnings in the past century until today. The author of the first and fascinating chapter is J. Sinkovics (148 pages). This section of the volume is well representing his critical views on the values and difficulties encountered in the research area. Nowadays we can state that several viruses and their lysates are capable of inducing long-lasting tumor remissions in certain individuals affected by various (but not all types of!) neoplastic diseases. Numerous aspects of such information have to be analyzed. Among them, the most important questions under debate are:

a) which patient has to be selected for treatment and in which setting (adjuvant therapy or relapsing individual, residual disease or tumor mass)?
b) The best route of administration has to be explored (systemic or intratumoral application).
c) Simultaneous or sequential application should be preferred?

The author of the second chapter is J. Sinkovics as well. This section is almost a complete book (310 pages), and provides a detailed interpretation of recent avenues, metabolic pathways and target molecules studied in biotherapy. The aim of this wealth of information is to assist in determining the potential role of the oncolytic virus therapy among biotherapeutic modalities. There are namely „competitors" and „collaborators" from both sides.

In the second part of the book, 11 highly active and successful groups report on their recent findings (337 pages). Springfield and co-workers studied the oncolytic activity of measles virus modified by genetic engineering. Schirrmacher's working group from Heidelberg produced encouraging results with tumor vaccines altered by oncolytic viruses. He came to the conclusion that, by using these products, it may be possible to induce apoptosis in tumor cells. Horvath is the author of a detailed description concerning the oncolytic potency of the Newcastle disease virus, with relevant information to the Hungarian product MTH-68. Muster with his Austrian colleagues analyzed the oncolytic properties of influenza viruses, while Taylor and co-workers focused their research interest towards the study of the virus, which is inducing vesicular stomatitis. This virus interacts profoundly with the interferon systems. Rommelaere, with the assistance of a DKFZ research group, was able to detect the oncolytic activity of certain parvoviruses. Cassel and co-workers report on their findings achieved in stage III melanoma patients with Newcastle disease virus lysates. Hersey has a similar approach with vaccine virus lysates. The oncolytic properties of herpes simplex virus are examined by Fu, that of the poliovirus recombinants in glioma patients by Merill. The last interesting contribution to this report series is authored by McCormick. He tried to explain the mechanism of action of the viral oncolysis phenomenon. According to his data, various genetic alterations might occur, and among others RB and p53 tumor suppressors are involved in this process. Based on this concept new agents were designed and clinically tested with promising results (e.g. ONYX-015).

The title of the last section of the book bears „Epilogue. Damn the torpedoes! Full speed ahead!" In fact, it is a short summary of the recent, up-to-date research trends. Moreover, it demonstrates that the data and the ideas listed here are originating from a very well informed, scientifically sound and highly motivated researcher.

It is obligatory to place this book to the desk of those engaged in tumor immunotherapy research. Furthermore, it could be recommended to all those persons who would like to refresh their knowledge by relevant information in biology and medicine.

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