The book is divided into two parts. In the first, comprising 4 articles, basic experimental results on the interactions of radiotherapy and chemotherapy are discussed. The best treatment strategies with respect to dosage and sensitivity of malignant cells to chemotherapy and radiotherapy have been established. The papers are based on experimental results from cell proliferation studies. One interesting assertion is that in chemotherapy, tumor cells respond to fractionated actinotherapy by repopulation. Further experiments in which the effects on tumors of combining ionizing radiation and cytotoxic drugs (the factor of the effects of chemotherapy and actinotherapy doses on tumor and normal tissues in ratio to the therapeutic gain factor) are discussed. Clarifying the problem of combined actinotherapy is the essential concern.

No less interesting is the knowledge obtained from testing chemotherapeutics on LAF-L mice, and the dependence upon maximal tolerated doses of radiation per square meter or per milligram weight. What is principally under discussion is a clarification of the supraadditive effect of cytostatics and enhanced injury on normal tissues due to actinotherapy in relation to the specific organ effect of certain cytostatics.

The clinical results after combined therapy with radiation and cytostatic drugs, discussed in the second part of the book, are very encouraging. The principal advances are with inoperable selected localizations with a bad prognosis, not only in adults, but also in children. These clinical results are very impressive. In the randomized clinical experiments in head and neck cancer of adult patients (stage III or IV) methotrexate (MTX), 5-flurouracil (5-FU), and cisplatin combined with radiotherapy were used from 1976 to 1980. Some better results are reported in the work of Hank et al. [1], where preoperative radiation therapy – two doses of 3,000 rad – was used followed by 5-FU before each series of radiotherapy. The next paper discusses multimodal therapy, adjuvant as well as neoadjuvant chemotherapy and actinotherapy after surgery, in non-small cell lung cancer. The results, however, are still inconclusive.

There is further very interesting information about utilizing combined therapy in gastrointestinal cancer: esophageal, gastric, pancreatic and anorectal. The most interesting model of this combined chemora-diatherapy was reported recently by Bayfield et al. [2] using high doses of 5-FU and its protracted continuous infusion in combination with radiation therapy. Recently, so-called intraoperative electron beam boost (IORT-EB) therapy using electron radiation from the linear accelerator has been introduced into the radiation therapies. This method requires special adaptation of the operating theater.
In the following papers, results with adjuvant and neoadjuvant – rarely used – therapy in operable (non-metastasizing) breast cancer, and on inductive therapy (in inoperable cancer of the breast) are reported.

Though, in contrast to the mentioned approaches to the therapy of nonmetastasizing breast cancer, better and better and more long-term complete remissions (CR) occur using chemotherapy in inoperable cancer, they are however only in the range of 20-26%, in comparison with 60-73% of CR using combined che-moradiotherapy.

As early as 1974, Piver et al. [3] reported a 2-year survival rate in stage III inoperable cervical cancer of 33% and a 5-year survival rate of 18%. Recently, they used combined therapy – intracavitry radium therapy and chemotherapy with hydroxyurea (HU). This chemotherapy was then replaced by other drugs, and current state of-the-art in clinical research is the use of radiation therapy with 5-FU and cisplatin, or HU use versus 5-FU/cisplatin. These have been used as neoadjuvant therapy; long-term results, however, are still missing.

In the papers concerning an optimal model for radiochemotherapy in pediatric oncology, relationship of sufficiently high doses of ionizing radiation to the doses of cytostatics (concerning local effects on the tumor and the normal tissues, and delayed posttherapy reactions) needs to be emphasized. These recommendations need further clinical evaluations.

Additional emphasis should be put on combined therapy in Hodgkin’s disease in children at all clinical stages but especially in stages III or IV, and in the cases with a large tumor mass in the mediastinum. In cases with this localization, high percent survival rates at 5 or 10 years after this combined therapy have been reported. For this reason, the mentioned relationship of the dose of radiation therapy to the chemotherapy is very important.

In the following chapters, particular modalities of radiation therapy with the infusion of chemotherapeutics, specifically 5-FU, cisplatin and adriamycin are reported. For each application the mechanisms of the cytostatic effect and toxic manifestations are discussed. Throughout the development of chemotherapeutics, ways to avoid toxic manifestations of the cytostatics have been sought. It is very noteworthy all these cytotoxic drugs used in infusions and their combinations with the radiation therapy are also effective in inoperable cancer. For 5-FU, the following localizations are quoted: esophageal cancer, rectum, head and neck cancer, bladder cancer, and liver metastases of colorectal cancer.

Regarding the toxic effect of adriamycin on the heart, there it is very important to retain a long infusion time, 48-100 h, and the dose over 60 mg/m2 per cycle [4]. In this combined therapy, IORT-EB has also been used. Recommended localizations are soft-tissue sarcomas and primary hepatocellular cancer.

It is necessary to emphasize, that the data published in this book have been obtained not only from experiments, but also by evaluating the clinical experience with radiation therapy and chemotherapy. This modulation of cytostatic therapy explores not only synergistic potentiation, when drugs are given sequentially, but also the influence of chemotherapeutics on the outcome of radiotherapy, and vice versa.

The book is a valuable approach in radiochemo-therapy, especially for those cancer specialists and clinical oncologists dealing with solid tumor therapy.

P. Cepcek, Bratislava V. Krcmery, Bratislava

References


Barbara Fowble, Robert L. Goodman, John H. Click,
Ernest F. Rosa to
Breast Cancer Treatment
The book gives a good review of all the clinically important information to date on breast cancer. All contentions are based on the results of recent trials. In cases in which there are no unambiguous conclusions, this is clearly stated. The authors’ recommendations for circumaleolar incision in open breast biopsy are not generally accepted today, because this type of incision excludes the ability to perform segmental mastectomy. Thus the circumareolar incision has been abandoned. The great importance of new biological markers, useful in the determination of the high grade group, has to be reaffirmed. Controversies in adjuvant therapy still exist, and on-going trials will bring answers to them. Many special aspects are described, i.e. bone marrow transplantation, psychosocial problems and rehabilitation, and are an integral part of everyday practice. Therefore, the book is not only interesting, but also complete.
V. Krcmery, Bratislava

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