

PREFACE

Regional antineoplastic drug administration is not a new concept, having been examined since the earliest days of the modern chemotherapeutic era. For example, nitrogen mustard and hemisulfur mustard were administered by the intraperitoneal route in the 1950s as a strategy to treat malignant effusions (1,2), while during the same time period alkylating agents were delivered by direct intraarterial instillation to treat localized tumor masses (3).

Over the past several decades much has been learned regarding both the potential benefits (e.g., improvement in local symptoms and quality of life, prolongation of progression-free and overall survival) and the toxicities associated with regional antineoplastic drug delivery.

Local side effects of treatment include both the direct effects of the high concentrations of drug in contact with the infused/instilled body compartment [e.g., adhesion formation following intraperitoneal therapy (4), blindness following intra-carotid artery delivery (5), biliary sclerosis following intrahepatic artery infusions (6)] and the complications associated with the actual drug administration (e.g., infection of catheters and bleeding following intraarterial infusion).

In a number of specific malignant disease settings, this therapeutic strategy has become the “standard of care” in patient management. Examples include the use of intravesical therapy of localized bladder cancer (7), and intrathecal or intraventricular antineoplastic drug delivery for treatment of meningeal leukemia (8). In both situations regional therapy has been established as a highly effective treatment approach.

In other areas, such as the use of intraperitoneal chemotherapy in the management of ovarian cancer, accumulating data have strongly suggested an important role for the strategy in a subset of individuals with the malignancy. Two recently reported randomized clinical trials have demonstrated that, compared to the intravenous delivery of cisplatin, the intraperitoneal administration of the agent as initial chemotherapy of small volume residual disease results in an improvement in both progression-free and overall survival (9,10).

Finally, promising and highly innovative approaches to the management of malignant disease that employ regional drug delivery have been reported during the past several years from a number of major research centers throughout the world. These include the direct delivery of antineoplastic agents into body cavities (peritoneal cavity, pleura, pericardium, bladder, meninges) and arterial blood vessels, utilizing both cytotoxic and biological agents.

In *Regional Chemotherapy: Clinical Research and Practice* we have been extremely fortunate to assemble many leading clinicians and clinical investigators in the rapidly expanding arena of regional antineoplastic drug delivery from around the world, to contribute to a discussion of the current state-of-the-art, as well as new developments in this important area of oncologic care and research.

Although some of the approaches to be discussed remain highly experimental, it can reasonably be hoped and anticipated that many of these imaginative and innovative strategies will ultimately be recognized as “standard treatment” for patients with malignant disease confined to specific regions of the human body.

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<http://www.springer.com/978-0-89603-729-8>

Regional Chemotherapy
Clinical Research and Practice
Markman, M. (Ed.)
2000, X, 366 p., Hardcover
ISBN: 978-0-89603-729-8
A product of Humana Press