Electroporation-Based Therapies for Cancer. Woodhead Publishing Series in Biomedicine

Description: Electroporation-Based Therapies for Cancer reviews electroporation-based clinical studies in hospitals for various cancer treatments, including melanomas, head and neck cancers, chest wall breast carcinomas, and colorectal cancers, as well as research studies in the lab using cell lines, primary cells, and animals.

Cancer kills about one American per minute, amounting to over 500,000 deaths in the United States and millions, worldwide, each year. There is a critical need for safe, effective, and affordable alternative treatment modalities, especially for inoperable, recurring, and chemo-resistant cancers, that do not respond well to current treatment regimen. An electrical-pulse-mediated, enhanced drug delivery technique known as electroporation is one way to effectively treat these patients.

This technique is especially suitable for low- and middle-income countries, where lack of infrastructure and resources leads to cancer diagnoses at late stages. This quick, safe, effective, economical, out-patient-based technique is a boon to these patients for palliative and other care with enhanced quality of life. This book features discussions by interdisciplinary authors—including practicing oncological surgeons, medical professionals, and academic and other researchers—of the basics and clinical medical applications of electroporation.

- Provides novel and recent clinical applications of electrochemotherapy for various cancers, including melanomas, sarcomas, superficial extreme melanoma, chest wall breast carcinoma, and colorectal cancers
- Extensive study of a number of cell lines, including human breast cancer, lung cancer, cervical cancer, leukemia, and mouse breast cancer using both reversible and irreversible electroporation techniques
- In vitro study of delivery of various commonly prescribed/administered breast cancer chemo and hormone drugs, such as Doxorubicin, Paclitaxel, Bleomycin, and Tamoxifen

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