



PubMed Nucleotide Protein Genome Structure PopSet Taxonomy OMIM Bo

Search PubMed for Go Clear

Limits Preview/Index History Clipboard Details

Display Abstract Sort Save Text Clip Add Order

Entrez PubMed

1: IEEE Trans Biomed Eng 1999
Jun;46(6):752-9

Related Articles, ^{NEW} Books,
LinkOut

PubMed Services

Electroporation therapy: a new approach for the treatment of head and neck cancer.

Hofmann GA, Dev SB, Dimmer S, Nanda GS.

Genetronics, Inc., San Diego, CA 92121, USA. gah@cts.com

Related Resources

Electroporation can deliver exogenous molecules like drugs and genes into cells by pulsed electric fields through a temporary increase in cell membrane permeability. This effect is being used for the treatment of cancer by intratumoral injection of low dosage of an otherwise marginally effective chemotherapeutic drug, bleomycin. Application of a pulsed electric field results in substantially higher uptake of the drug and enhanced killing of the cancer cells than is possible by conventional methods. The MedPulser, a new treatment system for local electroporation therapy (EPT) of head and neck tumors was developed and is described in this paper. EPT with bleomycin has been found to be very effective in killing cancer cells in vitro, in mouse tumor xenografts in vivo, and in tumors in humans. Ten head and neck cancer patients with recurring or unresponsive tumors were enrolled in a Phase I/II clinical trial. Treatment of the entire tumor mass in each of eight patients resulted in five complete responses confirmed by biopsy and MRI, and three partial responses (> or = 50% shrinkage). Two additional patients who received partial treatment of their tumor mass had local response where treated, but no overall lesion remission. Duration of the complete responses ranges from 2-10 months to date. All patients tolerated the treatment well with no significant local or systemic adverse effects.

Publication Types:

- Clinical Trial
- Clinical Trial, Phase I
- Clinical Trial, Phase II

PMID: 10356882 [PubMed - indexed for MEDLINE]