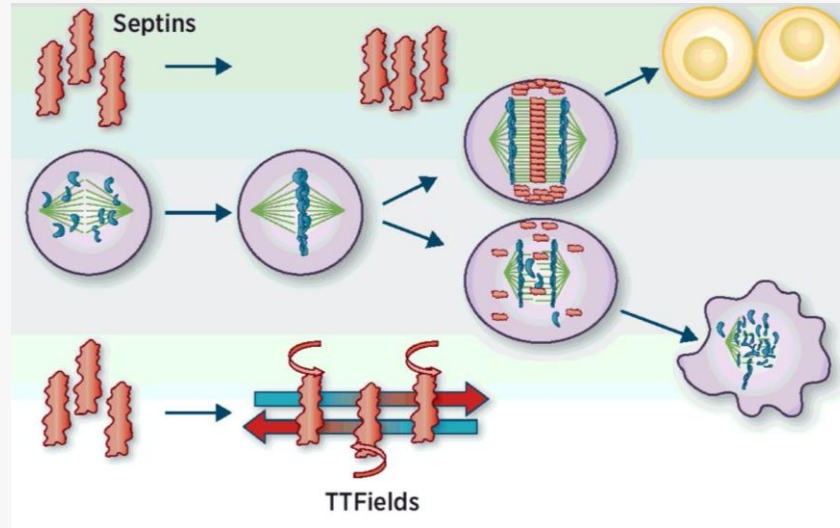


TTFields in combination with chemotherapy

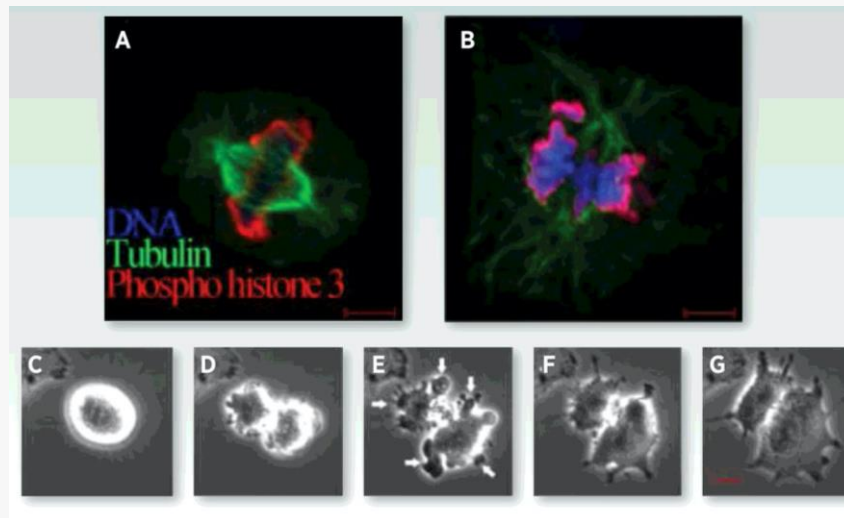
CLINICAL DEVELOPMENT

Dr. Hani M Babiker, M.D.
Director, Early Phase Clinical Trials
University of Arizona Cancer Center

Tumor Treating Fields can leverage physics to fight cancer



Tumor Treating Fields can leverage physics to fight cancer



Review

Clinical
Cancer
Research

Tumor-Treating Fields: A Fourth Modality in Cancer Treatment

Elijah J. Mun¹, Hani M. Babiker², Uri Weinberg³, Eilon D. Kirson³, and Daniel D. Von Hoff^{4,5}



Abstract

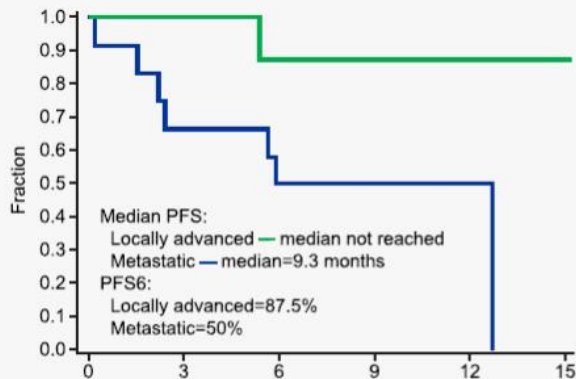
Despite major advances in therapy, cancer continues to be a leading cause of mortality. In addition, toxicities of traditional therapies pose a significant challenge to tolerability and adherence. TTFs, a noninvasive anticancer treatment modality, utilizes alternating electric fields at specific frequencies and intensities to selectively disrupt mitosis in cancerous cells. TTFs target proteins crucial to the

cell cycle, leading to mitotic arrest and apoptosis. TTFs also facilitate an antitumor immune response. Clinical trials of TTFs have proven safe and efficacious in patients with glioblastoma multiforme (GBM), and are FDA approved for use in newly diagnosed and recurrent GBM. Trials in other localized solid tumors are ongoing. *Clin Cancer Res*; 24(2); 266–75. ©2017 AACR.

5 year survival of
pancreatic cancer
is 10%

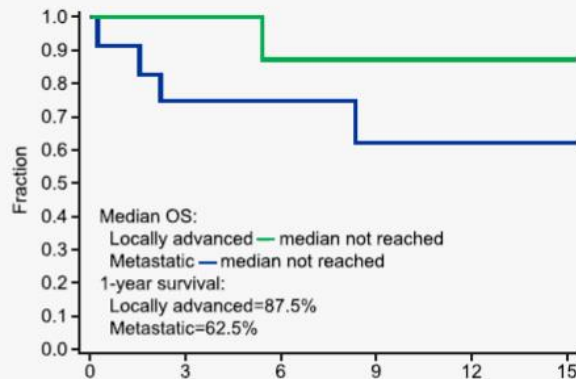
efficacy suggested in PANOVA phase 2 pilot trial

Kaplan-Meier progression-free survival locally advanced versus metastatic



PFS – progression-free survival (months)

Kaplan-Meier overall survival local advanced versus metastatic



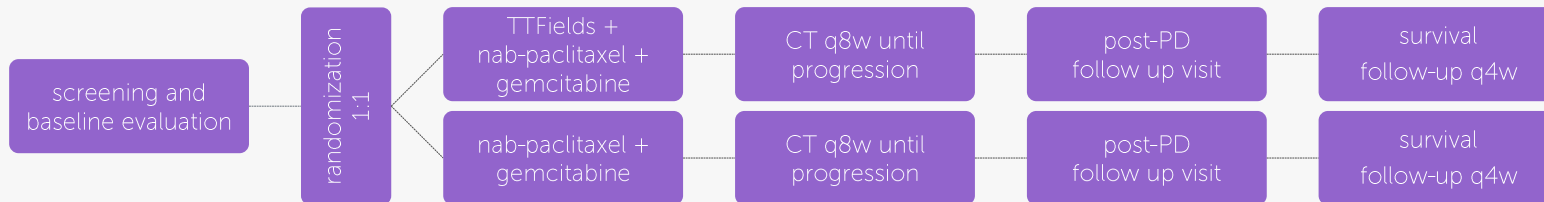
OS – overall survival (months)

results in two cohorts of patients with locally-advanced or metastatic pancreatic adenocarcinoma

ongoing PANOVA-3 trial in pancreatic cancer



PANOVA-3 PHASE 3 PIVOTAL, OPEN-LABEL, RANDOMIZED TRIAL DESIGN¹



major inclusion criteria (summarized)

Unresectable, locally advanced, *de novo* pancreatic adenocarcinoma (confirmed by histology and cytology)

major exclusion criteria (summarized)

Prior palliative treatment (eg. surgery, radiation) to the tumor

primary and secondary endpoints

Primary endpoint:

- Overall survival

Key secondary endpoints:

- Local progression-free survival
- Overall response rate
- Quality of life
- Pain-free survival
- Puncture-free survival
- Rate of respectability
- Toxicity