Susan B Klein, J Bioengineer & Biomedical Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9538.C1.014

Radiation therapy in a world of alternative treatments

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Precision medicine, immunotherapy, angiogenesis inhibitors, ablation therapy and targeted therapy have gained considerable attention in the popular press, scientific literature and funding agencies. The volume and mass of media attention would lead one to believe that radiation therapy has been cast out of medical favor. Nonetheless, two-thirds to one-half of all cancer patients are currently treated with radiation, depending on the source of the statistic. Two mandates are driving advances in cancer therapy. The first is a point by point response to therapeutic failure; an effort to improve the efficacy of the therapy. The second strives to improve the selectivity of the targeted insult–medical physicists refer to this as minimizing the integral dose to healthy tissue. Notwithstanding the discovery of a silver bullet- a treatment that successfully cures all cancers, an examination of the advances in cancer therapy options with an eye toward target selectivity is valuable for a multidisciplinary approach to disease intervention..

Biography

Susan B Klein completed her PhD in Biophysics at University of California (Berkeley) in 1986. She completed her Post-doctoral training at University of Michigan in Biophysics and Radiation Oncology. After several years of bioengineering, she joined Indiana University Cyclotron Facility in 1990 where she examined proton radiation biology and began practicing medical physics. She is one of the seven intellectual property holders of the design, fabrication and operation of Midwest Proton Radiotherapy Institute. She is currently an Associate Director at Indiana University-Purdue University.

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