

Wednesday, October 29, 2014  
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## Breast Cancer Patients Benefit From Proton APBI, Quicker And Less Costly



Accelerated partial breast irradiation (APBI) with proton therapy may benefit breast cancer patients more than whole breast irradiation (WBI) in terms of cost and duration, according to The University of Texas MD Anderson Proton Therapy Center. These findings, titled “Initial Clinical Experience Using Protons for Accelerated Partial-Breast Irradiation: Longer-term Results” were presented at MD Anderson Proton Therapy Center’s inaugural North America meeting of the Particle Therapy

Co-operative Group (PTCOG) and are published in the upcoming edition of the *International Journal of Radiation Oncology, Biology, Physics (Red Journal)*, by Dr. Valentina Ovalle and Eric A. Strom.

“It is often suggested that trials of proton APBI are irrelevant due to the modality’s presumed high cost, but our data shows that this perception is false,” said Dr. Ovalle. “Correcting this perpetual assumption is an important step in helping patients obtain the necessary health coverage to participate in clinical research.”

Dr. Ovalle’s team of researchers conducted a cost analysis based on typical patient characteristics. They used Medicare reimbursement codes to investigate allowable charges of treatment and treatment schedules for **early stage breast cancer** patients receiving eight different types of partial and WBI therapies. These eight options represented 98% of treatment options open to these breast cancer patients.

Data analysis showed the cost of proton APBI was \$13,833, while WBI using x-rays was \$19,599. The cost advantage of proton APBI was bolstered by the fact that treatment was pursued to decrease overall treatment time and toxicity. Average costs for the eight treatments

were \$12,784, indicating proton APBI was similar to other types of radiation. Additionally, Dr. Ovalle stated, “Further, we anticipate that because charges vary proportionately across payers, the estimated Medicare reimbursement costs likely reflect relative charges to other third-party payers.”

The goal of APBI is to deliver a highly effective dose of radiation in a short period of time. Ten treatments are given twice per day over the course of one week. Radiation is delivered using either **brachytherapy** or external beam, with proton therapy offered as external beam APBI.

By delivering radiation in this manner, at least two-thirds of breast tissue is spared from receiving a full dose of radiation. This is due to the ability to direct the full dose of radiation specifically toward the tumor site.

Study co-author Eric A. Strom, MD, FACR, is a principal investigator of a clinical trial sponsored by the National Institute on proton APBI. In his opinion, “The biggest drawback to WBI is that it is inconvenient, interrupting lives.” Although APBI is still a treatment in its infancy, it seems to provide more benefits than does WBI.

“This cost analysis must be interpreted in light of clinical evidence for proton APBI, which while still in nascent stages, is promising,” said Dr. Ovalle. “The findings counter the presumption that proton APBI is so expensive that even excellent clinical results would be immaterial. If the payment barrier for proton therapy is removed so that current and future research can proceed, the outcomes may ultimately benefit patients, physicians *and* insurers: better treatments at lower costs.” These benefits would be welcomed by the nearly 250,000 patients diagnosed with invasive breast cancer annually.