Yi-Ying Pan

Taiwan

Dr Yi-Ying Pan is a radiation oncologist specializing in heavy ion, breast, prostate, sarcoma cancer and geriatric oncology. She earned her Doctor of Medicine degree from Taipei Medical University in 2016. After completing residency training of 4 years she currently serves at Taipei Veterans General Hospital, one of the most renowned medical center in Taiwan. Dr Pan's notable research includes Boron Neutron Capture Therapy (BNCT) for recurrent papillary thyroid carcinoma, with the work being the first-ever research investigating the application of BNCT on this type of tumor. Additionally, Dr Pan has gained international experience through exchange programs at Harvard Medical School and Massachusetts General Hospital. Recognized for her academic and clinical excellence, she has received multiple awards, scholarships and honors during medical school and residency. As of 2024, Dr Pan holds a lecturer position at National Yang Ming Chiao Tung University, further advancing her impact in radiation oncology.

Topic: Salvage BNCT for Recurrent Brain Tumor in Taiwan

Boron Neutron Capture Therapy (BNCT) is a novel targeted radiotherapy utilizing boron-10-containing drugs and thermal neutron irradiation to selectively destroy tumor cells. It offers higher radiobiological effectiveness than conventional photon radiotherapy, making it effective for treating radioresistant tumors. BNCT involves delivering a boron compound to tumor cells, followed by neutron irradiation, producing high-energy alpha particles that kill the tumor cells. Clinical experiences from Japan show promising results for glioblastomas and head and neck cancers.

In Taiwan, BNCT for recurrent brain tumors has been noteworthy. Since 2010, Taipei Veterans General Hospital, in collaboration with National Tsing-Hua University and Kyoto University, has initiated clinical trials and research of BNCT in medical practice. Further studies focus on optimizing boron drug delivery and improving neutron sources. BNCT's precise dose distribution and reduced damage to healthy tissues position it as a breakthrough in cancer treatment, offering improved outcomes for challenging tumors.