

Title: Intraoperative Radiation Therapy (IORT) in Breast Cancer: Insights from a Taiwanese Cohort Study and Management of Post-IORT Breast Fibrosis

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Abstract: Intraoperative Radiation Therapy (IORT) has gained increasing attention as a promising treatment modality for early-stage breast cancer patients. This presentation will discuss the findings from a retrospective, single-arm, multi-center study investigating the factors influencing local relapse risk and disease-free survival in 1,310 Taiwanese breast cancer patients who received IORT between 2014 and 2021. The study identified Ki-67 > 30%, omission of hormone therapy, and omission of supplemental External Beam Radiation Therapy (EBRT) as significant predictors of local relapse risk, while high PR status ($\geq 30\%$) correlated with improved disease-free survival. Subgroup analyses revealed the benefits of supplemental EBRT in high-risk DCIS patients, elderly patients, and those with HER2-positive breast cancer. These findings underscore the importance of treatment guideline adherence, risk stratification, and personalized treatment strategies in optimizing outcomes for breast cancer patients undergoing IORT.

In addition to the cohort study insights, this presentation will address the management of post-IORT breast fibrosis, a potential side effect of the treatment that can lead to cosmetic and functional impairments, impacting patients' quality of life. In Taiwanese patients, the main reason for post-IORT breast fibrosis is related to the relatively smaller breast size and the consequent over-use of oncoplastic procedures. The presentation will focus on the use of massage therapy as a primary management strategy for post-IORT breast fibrosis in this patient population. The techniques, timing, and duration of massage therapy will be discussed, along with its potential benefits in reducing fibrosis, improving skin elasticity, and enhancing overall cosmetic outcomes.

By combining the insights from the Taiwanese cohort study and the discussion on post-IORT breast fibrosis management in the context of smaller breast size and oncoplastic procedures, this presentation aims to provide a comprehensive and culturally relevant overview of IORT in breast cancer treatment for Taiwanese patients. The presentation will conclude with recommendations for future research and clinical practice to optimize patient outcomes and quality of life following IORT, taking into account the specific challenges faced by Taiwanese women.