

**RADIOTHERAPY  
AVOIDING  
LYMPHEDEMA**

Alphonse Taghian and colleagues have confirmed how regional lymph-node irradiation significantly increases the risk of lymphedema, a complication that can affect quite severely the quality of life of those women with breast cancer who develop this debilitating morbidity.

At the moment, lymphedema is treated when it develops. "At that point lymphedema can be too advanced and incurable," says Taghian, "therefore, I wanted to switch into a 'screening model' to catch it before it becomes obvious and intervene at this stage. This is the basis of our programme."

The prospective study included data from all women who underwent surgery for breast cancer at the Massachusetts General Hospital between 2005 and 2012. The authors measured the changes in the volume of the arms of patients ( $\geq 10\%$  increase) that developed lymphedema more than 3 months after treatment with a Perometer (a system that uses infrared technology to obtain limb measurements). "We then determined the cumulative lymphedema incidences and created multivariable models to determine risk factors for the development of lymphedema," Taghian explains. The researchers revealed that regional lymph-node irradiation, either via a supraclavicular field or posterior axillary boost, significantly increased the risk of lymphedema. Interestingly, adding a posterior axillary boost to a supraclavicular field did not further increase this risk when compared with treatment with a supraclavicular field alone. The authors also described early-post operative swelling ( $\leq 3$  months after treatment) as a novel predictor for the later development of lymphedema.

Taghian now wonders whether early intervention can prevent progression of lymphedema, "we have identified cohorts of patients at high risk of developing lymphedema and we are preparing a randomized clinical trial to include these patients and compare early intervention using exercise versus sleeves versus control (standard stretching and counseling on lymphedema) to determine whether early intervention is successful, and which intervention is superior."

**Teresa Villanueva**

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