Obesity May Worsen Breast Ca Outcomes

BY BRUCE JANCIN

FROM THE SAN ANTONIO BREAST CANCER SYMPOSIUM

SAN ANTONIO – Baseline obesity in breast cancer patients possessing the estrogen receptor–positive, HER2-negative disease subtype was independently associated with a 23% higher risk of recurrence and nearly a 50% increase in all-cause mortality compared with rates in the nonobese in a first-of-its-kind study.

"Our data suggest that obese patients with this breast cancer subtype are at increased risk of recurrence, and once that occurs there's a higher rate of progression of disease and a shorter time period between recurrence and death," Dr. Joseph A. Sparano said at the annual San Antonio Breast Cancer Symposium.

The estrogen receptor–positive, HER2-negative form of breast cancer is the most common subtype, accounting for 50%-60% of all operable invasive breast cancers in the United States. It is generally viewed as having a more favorable prognosis than other subtypes, noted Dr. Sparano, professor of medicine and women's health at Albert Einstein College of Medicine and associate chairman of oncology at Montefiore Medical Center in Bronx, N.Y.

He presented a retrospective analysis of the Eastern Cooperative Oncology Group (ECOG) E1199 prospective randomized trial of various chemotherapy regimens, for which baseline body mass index data were available on 3,484 of the 5,168 participants. A total of 38% had a BMI of at least 30 kg/m^2.

As expected based upon other studies, obesity was associated with older age, black race, and a higher rate of postmenopausal status.

In a Cox proportionate hazards model adjusted for these and other potential confounders including tumor size, surgery type, radiation therapy, and chemotherapy dosing and intensity, obese women with hormone receptor–positive, HER2-negative disease were 23% more likely to experience recurrence and had a 46% greater all-cause mortality than nonobese women with the same tumor subtype. In contrast, obesity had no impact on outcomes in women with the other two major breast cancer subtypes: triple-negative disease and HER2-positive breast cancer.

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DR. SPARANO

The investigators also examined the association between outcomes and BMI as a continuous rather than a categorical variable. After adjustment for potential confounders, they found that as baseline BMI increased in patients with estrogen receptor–positive, HER2-negative cancer, the risk of recurrence steadily increased in straightforward fashion. For mortality, on the other hand, there was an inflection point at about 30 kg/m^2, when the mortality curve steepened.

Other studies have documented inferior outcomes in breast cancer patients who are obese, but this is the first to break down the relationship according to disease subtype, said Dr. Sparano, who is chair of the ECOG breast committee.

He believes obesity may be a surrogate for other as yet unknown host-related factors that contribute to disease recurrence. One such factor might be hyperinsulinemia.

"Hyperinsulinemia is known to be associated with obesity, and estrogen receptor–positive disease in particular has been shown to more highly express the IGF [insulin-like growth factor] signaling pathway and the insulin receptor. So hyperinsulinemia may drive the growth of estrogen-dependent tumors – and hyperinsulinemia is potentially modifiable," he noted.

Other hypothesized mechanisms include differences in treatment adherence or drug metabolism, he added.

Dr. Sparano declared that he has no financial conflicts of interest. ■