

Obesity and Breast Cancer Prognosis

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Opinion Article

Overweight and obese adults and children have been progressively growing over the previous two decades, with one-third of American adults projected to be fat. Obesity has been identified as a risk factor for postmenopausal breast cancer and has also been linked to an increased risk of endometrial, renal, colon, and esophageal cancers.

Obesity has been identified as a poor predictive factor among breast and colon cancer survivors, in addition to its impact on cancer risk.

Breast cancer deaths in US women aged 50 and older are projected to be reduced by 11,000 to 18,000 per year if women maintain a body mass index (BMI) of less than 25 kg/m² throughout their adult lifetimes.

Obesity is thus a prevalent and modifiable risk factor, and obesity prevention measures can have a significant impact on cancer incidence and mortality.

Although the link between obesity and breast cancer is complex and poorly understood, increased oestrogen synthesis in extra adipose tissue in obese women after menopause is a crucial cause. As a result, estrogen-sensitive tissues in obese women are exposed to higher oestrogen stimulation than in lean women, which can promote breast cancer growth and progression.

Obesity's effects on insulin levels and the insulin-like growth factor-1 (IGF-1) axis, as well as adipocytes' altered synthesis of adipokines, may all have a role in the development of breast cancer. Obesity is also considered a proinflammatory condition because it causes the release of inflammatory mediators that promote tumour growth.

The intricate interplay of these factors that are linked to obesity is the topic of ongoing study that could lead to the discovery of shared physiological pathways that link obesity to cancer outcomes.

The researchers did a retrospective study in Denmark to see if there was a link between BMI at diagnosis and breast cancer outcomes in women who were treated for early breast cancer in adjuvant therapy trials.

Their study is one of the largest ever undertaken to investigate this topic, and patients were followed for 30 years. The majority of patients who underwent endocrine therapy were given tamoxifen for a period of one to five years, while others were given an aromatase inhibitor.

Patients who were treated with chemotherapy were more likely to have BMI data available, indicating a bias in the data set.

Obese patients, defined as having a BMI of 30 kg/m² or higher, outperformed women of normal weight (BMI 25 kg/m²). Patients were followed for recurrence for 10 years and death from breast cancer or other causes for up to 30 years.

BMI was found to be unrelated to tumour locoregional recurrence in women with known BMI. However, after 5 years of follow-up, obese women had a 46 percent greater chance of having distant metastases (hazard ratio, 1.46; 95 percent CI, 1.11 to 1.92; P = .007). After ten years of follow-up, specific mortality increased, and obese patients were also more likely to die from noncancer-related reasons, as expected.

After adjusting for tumour size, nodal status, and other clinicopathologic factors, obesity was found to be substantially linked with distant metastases and breast cancer-specific death. Obese women are more likely than lean women to be diagnosed with breast cancer at a later stage, which may contribute to the higher death rates among obese women. The fear that obese individuals would experience significant toxicity if medications are dosed based on actual body weight appears to be one of the reasons for under treatment. Other findings suggest that obesity may affect the efficacy of endocrine treatment in breast cancer patients. As a result, obese breast cancer patients should be informed about the strong evidence regarding the negative impact of obesity on risk and outcome, as well as the possible benefit of making lifestyle changes to enhance weight control.

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