

Breast Cancer and Obesity: What's New?

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Breast cancer is one of the most common types of malignancy worldwide [1]. Obesity is a major contributor to the growing incidence of cancer. It is estimated that up to 20% of all cancers are caused by obesity [2]. Obesity has been associated with negative oncologic outcomes in breast cancer with different treatment strategy between obese and non-obese patients [1].

Obesity is a modifiable factor which is associated with an increased risk of cancer and poorer outcomes. Providers should educate patients on all health hazards of obesity, including increased risk of cancer, and encourage them to participate in a structured weight loss plan [3]. Therefore, preventive lifestyle intervention should be targeted to lower the overweight and weight gain. These measures will be more cost-effective than treating breast cancer and its complications.

Obesity is known to drive a molecular circuitry resulting in aggressive tumor progression [4].

Surgical methods, cancer characteristics and obesity were found to contribute to the development of arm lymphedema a serious complication that can adversely affect quality of life [5].

Although the biological explanations for how obesity affects breast cancer are incompletely mapped a new study found that the adipocyte secretome promote breast cancer cell proliferation and motility [6]. Moreover, a strong association between higher body mass index (BMI; calculated as weight in kilograms divided by height in meters squared) during adolescence and increased risk breast cancer in adulthood has been proved [7].

The increased risk of breast cancer in women with normal BMI and excess adiposity is unknown. Fat tissue produces excess amounts of estrogen, high levels of which have been associated with increased risks of breast cancer. A Recent clinical trial and observational study found that postmenopausal women with normal BMI and relatively high body fat levels were associated with an elevated risk of invasive breast cancer. Though, normal BMI categorization may be an inadequate agent for the risk of breast cancer in postmenopausal women [8].

A new study demonstrates that the fat mass- and obesity-associated (FTO) gene on chromosome 16q12.2 has an intimate association with obesity and body mass index focusing on its critical role in specific types of cancers, such as breast cancer. Thus, FTO may become a new promising target for the diagnosis and treatment of breast cancer in the near future [9].

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