



OBESITY AND ENDOMETRIAL CANCER

RELATIONSHIP BETWEEN OBESITY AND CANCER

Obesity as a Risk Factor for Cancer

Obesity is defined by the World Health Organization, as “abnormal or excessive fat accumulation that may impair health.” Obesity causes 280,000 deaths each year in the United States. Although smoking is the most common cause of death that can be prevented, obesity is the second most common.¹ Obesity can lead to getting cancer although we don’t exactly understand why. Obese women definitely have an increase in estrogen, which is a hormone that makes some cancers grow. Other changes in obese women, such as more inflammation and insulin production (another type of hormone), may be linked to cancer development.

Cancer Diagnosis Associated with Obesity

The most well-known cancer linked to obesity is endometrial cancer, which is the fourth most common cancer in the United States, with more than 40,000 affected women.² Obesity has also been related to ovarian, breast and colon cancers. It may also be linked with other cancers, including esophageal, pancreatic and kidney (renal). As more women are obese in the U.S., more women are also getting endometrial cancer.³ As weight increases so does the risk for endometrial cancer.⁴ Obese women are two to three times more likely to get endometrial cancer.⁵⁻⁶ For women who are 50 pounds overweight, they are 10 times more likely to get endometrial cancer.⁷ It is important to realize that a large weight loss will reduce cancer risk. Two reports have shown that a large weight loss like that seen with weight-loss surgery resulted in lower rates of cancer, heart disease, diabetes and mortality (death).⁸⁻⁹

RELATIONSHIP AND CHALLENGES IN CANCER TREATMENT AND OBESITY

Taking care of an obese patient is difficult for doctors both in surgery and in the clinic. Now we recognize that the amount of medicine given, such as antibiotics, blood thinners and chemotherapy, is difficult to determine in overweight and obese patients. It may be that either obese patients don’t always get the quantity of medicine that they need or they may actually be given too much medicine.

Chemotherapy

The amount of chemotherapy given needs to be both safe and to work well to fight the cancer.¹⁰ This dose of chemotherapy has been calculated by using an individual’s height and weight. However, we have recently learned that almost half of all obese patients get amounts of chemotherapy that are actually not calculated by their actual weight. If true, this can cause obese patients to not do as well with cancer treatment. Recently, we have seen that obesity is linked to lower survival in breast, colon, and ovarian cancer. It may be that giving too little chemotherapy in overweight and obese patients may be contributing to this lower survival.

Radiation therapy

Obesity can also affect radiation therapy given.¹⁰ The amount of radiation given is carefully planned to prevent bad side effects and give necessary doses to the tumors alone. The dose of radiation therapy may be difficult to plan if the patient is obese. Some cancers are more likely to come back in obese patients. This may be related to problems such as planning radiation in obese women. Also, in obese patients, there is an increased risk for skin burns with radiation therapy.

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Surgery

Obese patients run into complications before, during and after surgery. These risks include longer surgery times, more bleeding during surgery, more wound infections, blood clots, lung problems such as pneumonia, and longer times spent in the hospital after surgery. We know that there is a direct connection between obesity and complications during surgery. By undergoing surgeries with smaller incisions, “minimally invasive” or “laparoscopic” or “robotic” surgery, obese patients may have fewer complications with surgery. Such complications include blood loss, wound complications, vomiting, and length of hospital stay. Even with this new type of surgery, surgery is still more difficult in obese patients, and it is often hard for both the surgeon and the anesthesiologist to care for obese women having surgery. This is because sometimes it is more difficult for the patient breathe well and for the surgeon to see the important structures during surgery. This is especially true in any patient with a body mass index (BMI) over 40kg/m² (morbid obesity).



SURVIVORSHIP: DIET, EXERCISE, SURGICAL INTERVENTIONS, IMPACT ON QUALITY OF LIFE, IMPACT ON OUTCOMES

Lifestyle modifications

The Institute of Medicine recommends that every cancer patient have a survivorship plan. This includes information about ways to prevent other diseases and to keep healthy overall.¹¹ For example, it is important to educate and give information to obese patients with endometrial cancer about the importance of weight loss to improve their overall health. A recent study (SUCCEED) showed that a diet and exercise plan helped obese endometrial cancer survivors to lose weight and change behaviors.¹² It is important to consider weight loss through diet and lifestyle change. This should be a part of endometrial cancer patients' survival plan.¹³

Surgical Interventions

Preliminary research has shown that women who have bariatric surgery to lose weight may reduce their risk of endometrial cancer by more than 70 percent and even more if they keep the weight off.¹⁴ Multiple agencies¹⁵ and groups National Institutes of Health, American Cancer Society and the American Gastrointestinal and Endoscopic Surgeons¹⁶⁻¹⁸ have all given guidelines for those patients who should have weight loss surgery. Women who have a BMI greater than 40 kg/m² or have BMI greater than 35 kg/m² with major medical problems (diabetes, hypertension, severe sleep apnea, hyperlipidemia, heart disease and polycystic ovarian syndrome) could be good candidates for weight loss surgery, especially if these women have tried diet and exercise and haven't been able to lose weight.¹⁷ Weight loss should be an important part of the endometrial cancer patient's survivorship plan and referral to a bariatric surgeon is one potential management option.

Quality of Life

There is a concern that the quality of life in obese patients is poor when compared to non-obese women.¹⁹ These same concerns were seen in endometrial cancer survivors. A recent study showed that quality of life and health in early stage endometrial cancer survivors were worse in more obese patients.²⁰ Other studies have shown that obese patients had more complaints about their body, had problems with sex, and were more tired. It is important to realize that pain and fatigue (being tired) can be made better with more exercise.^{19, 21-22}

IMPACT OF OBESITY ON OUTCOMES

Less information is available on the relationship of obesity to how well a patient survives or whether they are cured. Several reports show there is higher rate of mortality (death) in obese patients with endometrial cancer.²³⁻²⁴ Also, women with early stage endometrial cancer were twice as likely to die of cardiovascular disease (heart disease) and not to actually die from their endometrial cancer. It may be that patients with early stage endometrial cancer need more attention to weight loss rather than the type of treatment given in order to help them to survive longer. Weight loss appears to improve the long-term mortality (death rates) in obese patients and in patients that underwent weight loss surgery.²⁵⁻²⁶

SUMMARY

- Obesity is a risk for many cancers, especially endometrial cancer (as high as 10 times).
- A large weight loss may decrease the risk of cancer, diabetes, heart disease and death.
- Obesity may affect how the cancer is treated (surgery, chemotherapy and/or radiation) and how well those treatments may work.
- Diet and exercise programs should be given to women with cancer who are obese.
- Referral to a weight loss surgery expert should be made if diet and exercise programs do not work.
- Quality of life and survival can be better after an obese woman with cancer loses a large amount of weight.

RESOURCES FOR PHYSICIANS AND HEALTH CARE PROVIDERS

Agency for Healthcare Research and Quality
Nutrition and Physical Activity Guidelines for Cancer Survivors
www.guideline.gov/content.aspx?id=37279

Brochure: Reducing Sedentary Behaviors: Sitting Less and Moving More
www.acsm.org/docs/brochures/reducing-sedentary-behaviors-sitting-less-and-moving-more.pdf

American College of Sports Medicine's Exercise is Medicine Campaign
Resources for Physicians
www.exerciseismedicine.org/physicians.htm

American Congress of Obstetricians and Gynecologists' (ACOG)
Nutrition and Exercise Toolkit: A Physician's Guide to Promoting
a Healthy Lifestyle
www.acog.org/-/media/Districts/District%20IX/Nutrition%20and%20Exercise%20Toolkit%20FINAL.pdf?dmc=1&ts=20131124T1315211768

ACOG Women and Obesity Resources acog.org/About_ACOG/ www.ACOG_Districts/District_II/Women_and_Obesity

American Cancer Society and American College of Sports Medicine
Certified Cancer Exercise Trainers
<http://certification.acsm.org/acsm-cancer-exercise-trainer>
Certified Cancer Exercise Trainers (CET) certification

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The Society of Gynecologic Oncology is the premier medical specialty society for health care professionals trained in the comprehensive management of gynecologic cancers. Our 1,800 members include primarily gynecologic oncologists, as well as medical oncologists, pathologists, radiation oncologists, hematologists, surgical oncologists, obstetrician/gynecologists, nurses, physician assistants, and other allied health care professionals interested in the treatment and care of women's cancer. The mission of SGO is to promote the highest quality of comprehensive clinical care through education and research in the prevention and treatment of gynecologic cancers.

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