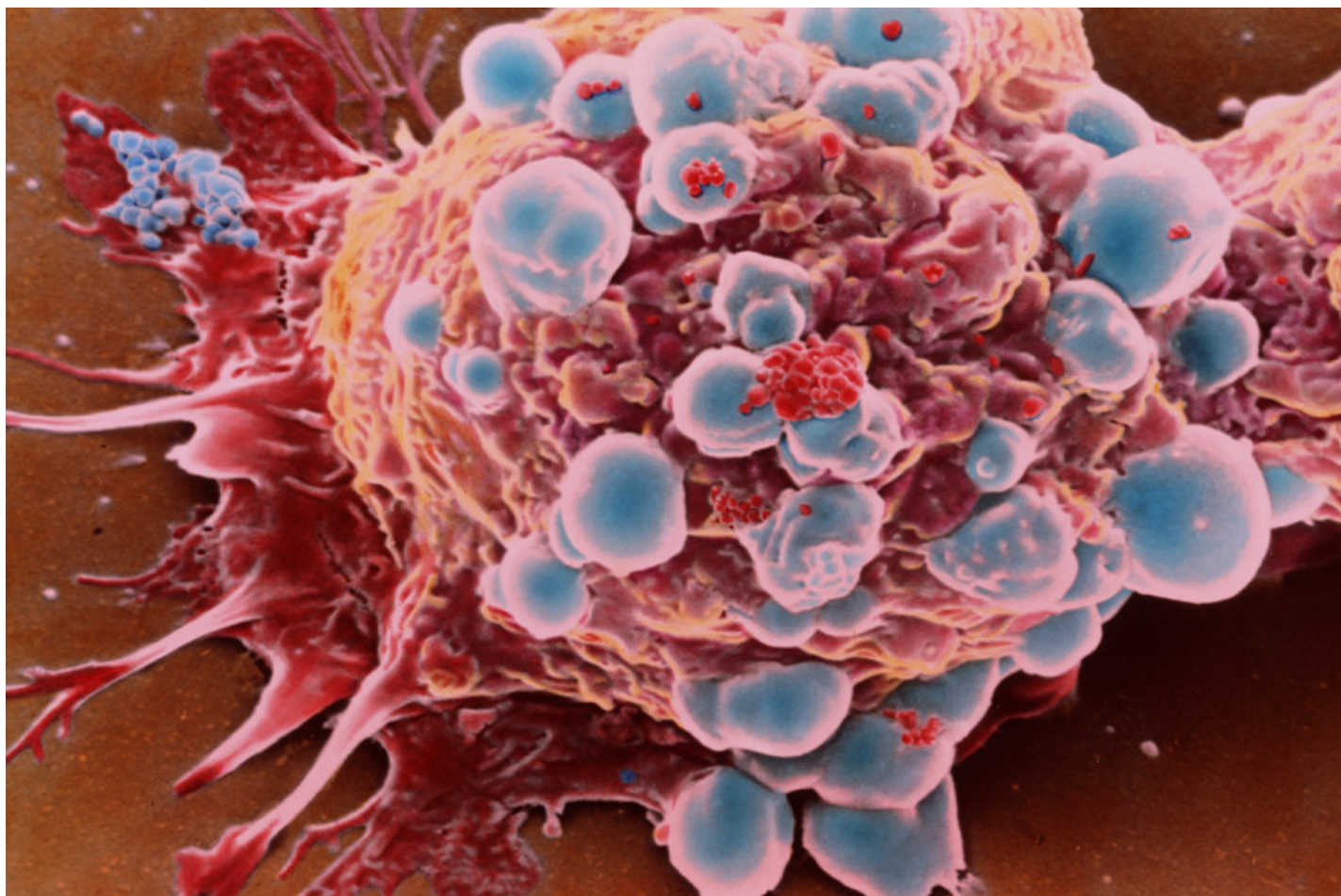


News & Information / In the News

Reality Check: Study Examines Metastasis after Breast Cancer Surgery

By Julie Grisham, Friday, April 13, 2018



Breast cancer cells can break off from the original tumor and spread to other parts of the body. Image credit: Quest / Science Source

Summary

New research conducted in mice shows that surgery for breast cancer may cause a response that makes it easier for the disease to spread. We spoke with an MSK expert to learn more.

Earlier this week, scientists from the Massachusetts Institute of Technology published a study looking at some of the ways in which **breast cancer** spreads, or

metastasizes, in mice. They reported data showing that **surgery** may trigger an immune response that makes it easier for cancer to spread throughout the body. Additionally, the study pointed to anti-inflammatory drugs like aspirin and ibuprofen as a possible way to decrease cancer's ability to spread.

The news media reported on the research, which is still in early stages. These headlines may be scary or confusing for people facing a recent diagnosis, as well as for those who have already had surgery.

We spoke with **Larry Norton**, Memorial Sloan Kettering's Senior Vice President and Medical Director of the Evelyn H. Lauder Breast Center, about what people should know about the study and why it shouldn't affect decisions about treatment.

Can you tell us how this study was conducted?

This was a study done in the lab using a mouse model. The mice had been injected with cancer cells and then underwent simulated surgeries. Those mice later developed tumors. However, when the mice were given an anti-inflammatory drug at the time of the surgical procedure, the tumors were smaller.

I want to emphasize that this is an excellent lab experiment, and it fits in with much of the lab research we're doing here at MSK. But it's far from ready to influence clinical care.



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Learn about MSK's approach to treating cancer that has spread from the original tumor to other parts of the body.

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What is the take-home message from the findings?

There is nothing in this study that should lead to any changes in the way we treat breast cancer. I don't want anyone to read the media coverage of this study and think that they shouldn't have surgery. That would be a disaster.

From studies conducted in London way back in the 1800s, we know that before doctors started doing surgery for breast cancer, everyone with breast cancer died. Some died soon after diagnosis, within months or a few years, and some lived for many years. But everyone eventually developed metastases and died from them. Surgery is still the mainstay of [treatment for breast cancer](#) and is the most important way to prevent metastases.

We have come a long way in the diagnosis and treatment of breast cancer since those early days, and today most people do very well. It's true that some people still develop metastases, even if their cancer is caught early. Therefore, it's clear that some tumors seed metastases very early in their development, long before they are ever detected and surgically removed. So it is not the surgery that causes the metastases.

What about taking anti-inflammatory drugs like aspirin or ibuprofen to reduce any potential risk?

I think a lot of people will hear about the study and grab onto this notion of taking these drugs at the time of surgery. But just because these drugs are available over the counter, it doesn't mean they're completely without risk. We know they can

increase bleeding, and that may turn out to be more harmful than the response to inflammation.

It's important to note that today many people with breast cancer get drug therapy before or immediately after their surgery. This includes [chemotherapy](#) and steroids. The steroids we give are much more potent than aspirin as far as their anti-inflammatory abilities. So there's no reason to automatically assume that a small additional boost from aspirin or ibuprofen would make a difference. It's an interesting question and it merits further research, but it's something that needs to be studied with controlled clinical trials in patients.



Breast Cancer Surgery

Types of breast cancer surgery include lumpectomy, mastectomy, and skin-sparing mastectomy. Learn more about how doctors choose which surgery to perform.

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What is MSK's role in studying cancer metastasis?

MSK is conducting a great deal of research on the question of metastases. For example, Sloan Kettering Institute Director [Joan Massagué](#) is a world leader in [studying how cancer metastasizes](#). Many of his studies also have looked the role of the immune system in suppressing cancer cells that have broken off from a tumor. He's conducted research on how these cells later wake up and start to cause trouble. The biology is complex, and there are still a lot of things we don't know. But everyone agrees this is a very important area of research, and one we will continue to study.

Is there anything else you'd like to say about the research?

This study was an interesting piece of well-conducted science. It's certainly adding to our knowledge and giving us some ideas for new things to look at in the lab and in the clinic. But while it would be terrific if stopping metastasis were as easy as taking an over-the-counter anti-inflammatory drug, everyone studying metastasis knows that it's not.

However, this work and much of the other work on this topic is pointing us in a good direction, with the ultimate aim of stopping cancer cells from spreading from the very beginning, or even before the beginning — as in cancer prevention. I do believe that the future is bright in this regard, although there is much work still to do to make it a reality.

Comments

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Katherine Hume

May 22, 2018 • 7:11 PM

It is a year since my mastectomy (HER-2 +) and I'm doing fabulously well. However, the MIT study you refer to is so very alarming and has set me back emotionally. I appreciate you taking the time to 'soften' the blow this has created.

Memorial Sloan Kettering

May 23, 2018 • 2:54 PM