Mammary Gland Mysteries, Solved

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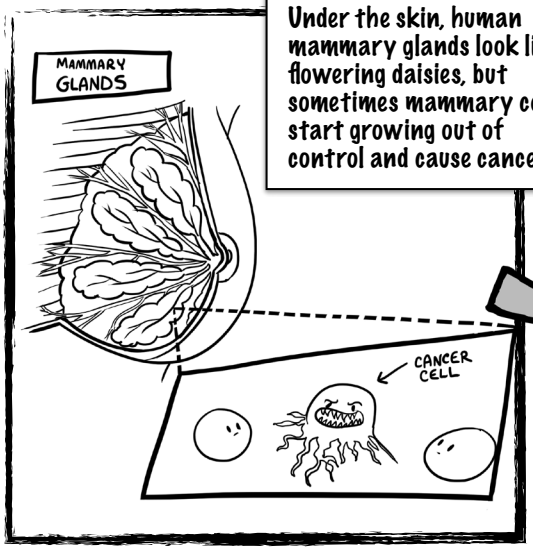

Under the skin, human mammary glands look like flowering daisies, but sometimes mammary cells start growing out of control and cause cancer.

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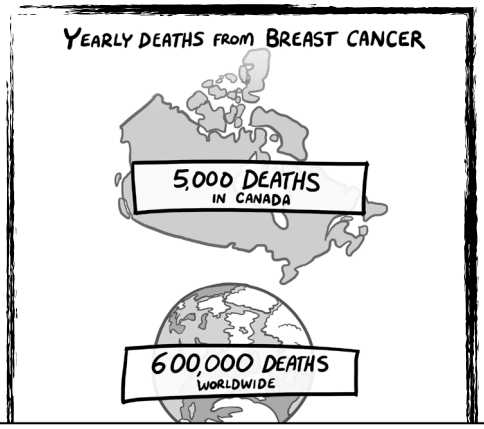

Around 5,000 Canadians and 600,000 people worldwide (mostly women) die from breast cancer each year, and there is still a lot that we don't understand about the disease

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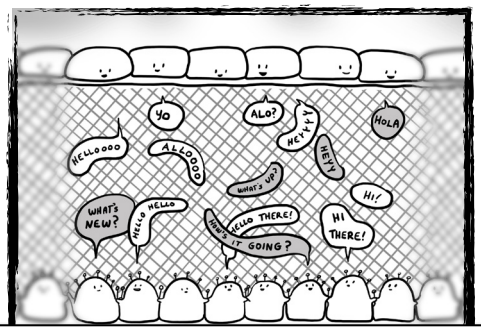

Scientists used to think that the extracellular matrix, the scaffolding surrounding the cells in our tissues, was purely structural. But Dr. Mina Bissell discovered that mammary cells actually communicate with this matrix, and that breast cancer can develop when this communication goes awry – a radical idea, at the time.

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By suspending mammary cells in an artificial matrix, Bissell made the cells behave more like they would in our tissues. Similar methods are now used to culture 'organoids,' or miniature versions of parts of our organs and tissues.

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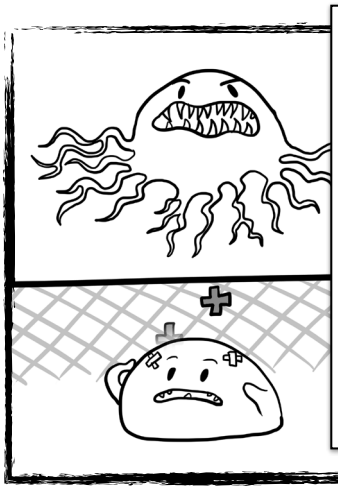

Amazingly, Bissell found that even cancer cells could become healthy again when she restored normal communication between them and their extracellular matrix.

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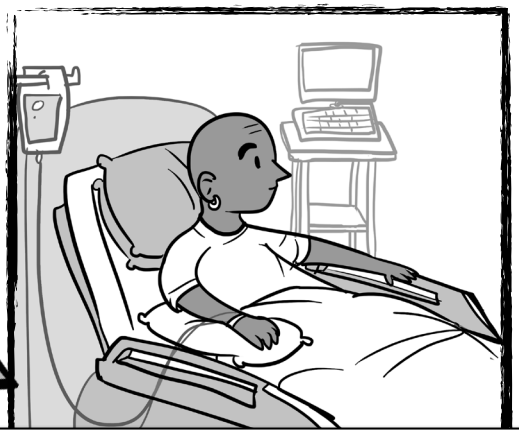

This research has led to a new anti-cancer therapy, which is currently entering clinical trials. All because she wasn't afraid to follow a radical idea.

Gairdner Foundation (https://gairdner.org/) | Canadian Society for Molecular (https://csmb-scbm.ca/) | UBC Michael Smith Laboratories (https://www.msl.ubc.ca/)

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