

Unlocking secrets of breast tissue

April 8 2014

A unique population of microbes in the female breast may lay the groundwork for understanding how this bacterial community contributes to health and disease, according to a new study out of Western University (London, Canada). The study titled "Microbiota of human breast tissue," is now published online, in advance of the May issue of *Applied and Environmental Microbiology*.

The human body is home to a large and diverse population of [bacteria](#) with properties that are both harmful and beneficial to our health. Studies are revealing the presence of bacteria in unexpected sites.

This new research has uncovered bacteria in breast tissue associated with cancer. Forms of bacteria known as 'Proteobacteria' were the most abundant, potentially as they are able to metabolize the [fatty tissue](#), said the paper's first author, Camilla Urbaniak, a PhD student in the Department of Microbiology & Immunology. Her studies, under the supervision of Lawson Health Research Institute Scientist and Schulich School of Medicine & Dentistry Professor Gregor Reid, involved breast tissue from 81 women in Canada and Ireland. Ten of the women undergoing breast reduction acted as controls, with 71 having benign or cancerous tumors. Bacteria were found in and beside the tumours.

"Although we have not proven that bacteria cause cancer, or that certain types of bacteria actually may reduce the risk of cancer, the findings open a completely new avenue for this important disease," said Reid. "Imagine if women have a microbiota in the breast that puts them at higher risk of cancer? Or, if various drugs such as antibiotics or birth

control pills alter the types of bacteria and their risk of cancer?"

Provided by University of Western Ontario

Citation: Unlocking secrets of breast tissue (2014, April 8) retrieved 25 April 2024 from <https://medicalxpress.com/news/2014-04-secrets-breast-tissue.html>

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