

3<sup>rd</sup> World Congress on

# Women's Health & Breast Cancer

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## Obesity and breast cancer: Can an Aspirin a day really improve survival?

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Multiple studies have demonstrated that obesity is associated with a worse outcome for most breast cancer subtypes and that obese breast cancer patients do not respond as well as normal weight patients to hormone therapy as well as chemotherapy. While a number of reasons have been proposed to explain this link, including diagnosis bias and complications caused by co-morbidities such as type II diabetes, recent studies have provided evidence that elevated local cyclooxygenase-2 (COX-2) expression and the resulting increase in prostaglandin E2 (PGE2) production may play an important role. COX-2 up regulation in breast tumors is associated with a poor prognosis, a connection generally attributed to PGE2's direct effects on apoptosis and invasion as well as its stimulation of pre-adipocyte aromatase expression and subsequent estrogen production. Research in this area has provided a strong foundation for the hypothesis that COX-2 signaling is involved in the obesity-breast cancer link. Our recent pre-clinical and clinical data suggest that this inflammation-related signaling modulates several pathways critical to cancer progression in the obese breast cancer patient—but importantly—suppression of this signaling through fairly non-toxic approaches may provide significant clinical benefit and improve response to standard therapies—which will be critical as obesity reaches epidemic levels world-wide.

### Biography

Linda deGraffenried has completed her PhD in Molecular Medicine and Post-doctoral Fellowship in Breast Cancer studies at the UT Health Science Center at San Antonio. She is an Associate Professor at UT Austin, and has published more than 30 peer-reviewed studies in the field of cancer development and progression. She is on the Editorial Board of several prestigious journals, and serves as a Referee for numerous cancer organizations, including the NIH/NCI, Susan G. Komen Foundation and American Cancer Society.

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