

Wound healing response promotes breast cancer metastasis in postpartum mice

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Within the first 5 years after the birth of a child, women are at an increased risk of developing metastatic breast cancer. Women diagnosed with postpartum breast cancer have a decreased disease free survival time compared to women that have never given birth. The aggressive tendency of postpartum breast cancer suggests that the post-birth breast environment promotes tumor metastasis.

A new study in the *Journal of Clinical Investigation*, suggests that dying tumor cells in postpartum breast tissue promote [metastatic disease](#). Rachel Cook and colleagues at Vanderbilt University found that postpartum mice rapidly develop metastatic disease. Breast tissue is extensively remodeled upon completion of lactation, and macrophages play a role in removing dying breast cells during this process. Cook and colleagues found that tumor cell death was also widespread in postpartum mice.

Dying tumor cells triggered secretion of anti-inflammatory cytokines that promote wound healing. Importantly, mice lacking a receptor on macrophages that is required for the clearance of dying cells did not develop metastatic disease. In addition, inhibition of the wound-healing cytokine TGF- β also prevented [tumor metastasis](#) in postpartum animals. This study provides potential targets to be further investigated for limiting the severity of postpartum breast cancer.

More information: Efferocytosis produces a prometastatic landscape during postpartum mammary gland involution, *J Clin Invest.* [DOI:](#)

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