

Immune cells link pregnancy and tumor spread

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Individuals with cancer often do not die as a result of their initial tumor but as a result of tumors at distant sites that are derived from the initial tumor. Pregnancy is a condition that seems to be permissive for tumor dissemination, as breast tumors arising during pregnancy display a tendency for early spread to distant sites (metastasis). Research in mice, led by Ivan Stamenkovic, at the University of Lausanne, Switzerland, has now uncovered a possible reason for this.

Stamenkovic and colleagues found that the increased metastasis from tumors of several different types that they observed in pregnant mice was a result of decreased activity of immune cells known as NK cells. Furthermore, at least part of the inhibitory effect on NK cells was mediated by another group of immune cells, myeloid-derived suppressor cells.

Consistent with this, the [gene expression profile](#) of the lungs of pregnant mice (a site to which many of the tumors metastasized) was reflective of myeloid-derived suppressor cell accumulation. Of clinical interest, the majority of genes downregulated in the lungs of pregnant mice were also expressed at lower levels in samples from [lung cancer patients](#) with poor prognosis than in samples from patients with better prognosis.

The authors therefore suggest that myeloid-derived suppressor cells may represent a shared mechanism of immune suppression during pregnancy and tumor growth.

More information: [www.jci.org/articles/view/4193 ...
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