Potential mediators of immune suppression in the involution liver microenvironment

Candidate mediators include pro-tumor extracellular matrix proteins and an axis that is predicted to facilitate immune suppression:
- Suppressive myeloid cells
- FoxP3+ T regulatory cells
- Elevated TGFβ mRNA

My preliminary data identify a new feature of the involution liver environment that may contribute to metastatic promotion: lipid accumulation

Lipid droplet accumulation in the perportal zone is a new feature of weaning-induced involution

Lipidomics reveals reproductive state-dependent regulation of hepatic lipid content

Future (ongoing) direction: Assess if involution metastatic promotion emerges by day 14 post tumor cell injection

Hypothesis: Metastatic advantage in involution may be immune-mediated; single tumor cells may preferentially avoid immune clearance.

Premise: The involution liver environment is enriched for immune suppressive features that may promote metastasis.

Acknowledgments: Authors appreciate the support of Schedin lab members, in particular Alex Klug for animal support and Simone Jolly, Jay NarramORE, and Andrea Carlson for histological support. Authors would like to thank Langle M. Wakefield, NC for gift of original "growing head" breeding pair and the UC Denver Lipidomics core for mass spectrometry analysis.

Works Cited:

Funding: Oregon Grant 462290; National Institutes of Health (NIH) R01-DK096854-01; P01-DK088513; P01-DK088513-12; P30-DK050303; R01-DK093510; R01-DK075033-02; R01-DK096854-01; R01-DK075033-02; R01-DK093510.