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This Month in *AJP*

Exploring Antibiotic Resistance among Group A *Streptococcus*

Antibiotic resistance in *Streptococcus pyogenes* [group A *Streptococcus* (GAS)] is a huge concern. Using a necrotizing myositis mouse model and the chimeric *Streptococcus dysgalactiae* subspecies *equisimilis* (SDSE)—like penicillin binding protein 2X (PBP2X), Olsen et al (**Am J Pathol, XXXX–XXXX**) studied beta-lactam susceptibility. The tested variant in GAS markedly decreased beta-lactam susceptibility *in vitro* and augmented fitness *in vivo*, resulting in higher virulence. Diagnostic surveillance is critical to manage emerging antibiotic resistance among GAS.

Assessing Mouse Mammary Gland Density

Methods of quantitatively analyzing mammary gland structure using digitized images are clunky. Using a bifurcated program for image processing, Rooney et al (**Am J Pathol, XXXX–XXXX**) developed a method to assess relative density scores on two-dimensional whole mount images. Gaussian denoising and a ridge operator processing were used for sorting mammary gland whole mount images. This novel approach may be useful in studying a range of mammary gland morphologies.

Predicting Immune Microenvironment Status in Lung Adenocarcinoma

The features of many costimulatory molecule genes (CMGs) are poorly studied in lung adenocarcinoma (LUAD). Using a bioinformatics approach, Zhai, Duan, and Wang et al **(Am J Pathol, XXXX–XXXX**) studied the expression patterns of CMGs in tumor immune microenvironment (TIME) status of LUAD patients. Expression profiles from publicly available databases were analyzed and three CMGs were screened as final diagnostic markers that showed good predictive performance in external validation cohorts. Accurate and specific predictions in TIME status of LUAD patients may help identify suitable candidates for immunotherapy.

Understanding Neuronal Control of Skin Lymphatics

The link between loss of neuronal control in chronic spinal cord injury (SCI) and the skin lymphatic system is unclear. Using pathological and molecular approaches, Brunner and Roux et al (**Am J Pathol, XXXX–XXXX**) studied this link. Tissue samples from the SCI patients and controls were analyzed. The skin from SCI patients had more collapsed lymph vessels than the skin from controls. The lymphatic vasculature may be guided by neuronal control.

Managing Lung Cancer

The role of the eicosapentainoid acid–derivative resolvin E1 (RvE1) in lung cancer is unclear. Using wild-type and transgenic mice overexpressing the receptor for RvE1 (ERV1), Kantarci and Kansal et al (**Am J Pathol, XXXX–XXXX**) studied this role. Mice were inoculated with a lung cancer cell line. Mice overexpressing RvE1 had reduced inflammation and vascularization resulting in smaller tumor size, which allowed for reduction in cisplatin dose. Modulating resolvins to manage inflammation may guide therapy for lung cancers.

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