This Month in AJP

Identifying Biomarker for Gastric Cancer Risk

The role of the alternative splicing factor heterogeneous nuclear ribonucleoprotein U (HNRNPU) in gastric cancer (GC) is unclear. Using molecular in vitro analysis, Dong, Wang, and Jing et al (Am J Pathol 2024, 13—29) studied HNRNPU expression patterns to study its role in GC progression. HNRNPU expression increases significantly as gastric disease progresses, and is associated with GC development. HNRNPU promoted the proliferation, migration, and invasion of GC cells, while suppressing apoptosis. HNRNPU may be used as a biomarker for predicting GC risk and prognosis.

Treating Alcohol-Associated Liver Disease

Treatments for alcohol-associated liver disease (ALD) are currently limited. Using a mouse model of ALD, Warner et al (Am J Pathol 2024, 71—84) studied the pharmacological potential of the lipid metabolism enzyme, soluble epoxide hydrolase (sEH). Liver injury was studied after alcohol administration with or without treatment with an sEH inhibitor. Inhibition of sEH ameliorated alcohol-induced liver injury. sEH may be targeted to manage ALD.

Preventing Kidney Fibrosis

Corin, a serine protease, has been proposed as a suppressor of renal fibrosis. Using cultured cells and mouse models of renal fibrosis, Su and Li et al (Am J Pathol 2024, 101—120) tested this potential. Corin was down-regulated in mouse models of renal fibrosis. In vitro, corin bound to Wnt1 and inhibited activation of β-catenin. In vivo, overexpression of corin reduced renal fibrosis. Corin may protect the kidney from fibrosis.

Managing Osteoarthritis

Our understanding of the regulators of osteophyte contributing to osteoarthritis (OA) is currently limited. Using chondrocytes from articular cartilage and osteophytes in patients with knee OA, Negishi et al (Am J Pathol 2024, 135—149) performed gene expression analysis to identify key players. Several genes were over-expressed in osteophyte compared to articular cartilage. A few implicated cytokines were studied further. IL-6 suppressed spheroid size of osteophytic cells and cell numbers of the spheroids by inducing apoptosis and reducing extracellular matrix molecules. Careful suppression of IL-6 may help prevent OA progression.

Understanding Nodular Lymphocyte-Predominant Hodgkin Lymphoma

Polo-Like Kinase 1 (PLK1) protein has been implicated in nodular lymphocyte-predominant Hodgkin lymphoma (NLPHL). Using a large collection of annotated NLPHL cases stained by immunohistochemistry for PLK1, Weiss et al (Am J Pathol 2024, 165—178) studied the expression of PLK1 in the context of clinical parameters and the tumor microenvironment. PLK1 is expressed in all cases of NLPHL and higher PLK1 positivity correlates with advanced clinical stage and variant histologies. High PLK1 expression was also associated with increased numbers of cytotoxic and T-regulatory T cells. PLK1 signaling may be targeted to manage NLPHL.