**Small HDL Particles Export Cholesterol via ABCA1 (p 1133)**

High density lipoproteins (HDLs) may be “good” cholesterols, but *Du et al* discover which are the best of the best.

Circulating HDLs collect cholesterol exported from cells and ferry it to the liver for excretion in the bile. Because of this property high HDL levels are believed to protect against cardiovascular disease. However, HDLs are a heterogeneous population of particles and it is not clear whether some are more efficient transporters than others. Moreover, the relative efficiency of the cellular exporters, ABCA1 and ABCG1, which transfer cholesterol from inside cells to the awaiting transporter, has not been determined. Hence, Du and colleagues examined the cholesterol transporting efficiency of different HDL subfractions and they found that the smallest particles, HDL3b and 3c, along with un-loaded apoA1—the main protein component of HDL—are much more efficient transporters of cholesterol from cells in culture than the large HDL particles. They also found the more efficient HDL particles export cholesterol via ABCA1 rather than ABCG1. Together the results suggest that cardioprotective therapies aimed at reducing tissue cholesterol levels might work best if they specifically boost small HDLs and the activity of ABCA1.

**Yan et al identify the long non-coding RNA MIAT as a proangiogenic factor in diabetic retinopathy.**

Angiogenesis is essential for tissue growth, development, and wound healing, but it can also be detrimental in diseases such as cancer or diabetic retinopathy. A better understanding of the processes that regulate angiogenesis may therefore reveal ways to control it in a variety of clinical scenarios. To search for novel angiogenic factors that regulate pathological retinal angiogenesis associated with diabetes, Yan and colleagues focused on long, noncoding RNAs (lncRNAs)—RNAs of 200 nucleotides or more that regulate gene expression. They found that MIAT (myocardial infarction associated transcript) is upregulated in the retinas of patients and rats with diabetes as well as in endothelial cells treated with high levels of glucose. The proangiogenic factor VEGF was also increased in the diabetic rat retinas, and the team showed that knocking down MIAT reduced retinal VEGF expression, improved vascular abnormalities as well as visual function. The team also provides evidence to suggest that MIAT promotes VEGF expression by binding and inhibiting a microRNA that normally suppresses VEGF. The finding that MIAT inhibition can improve diabetes-induced retinal microvascular abnormalities suggests this lncRNA could be a target for treating retinopathy, which remains one of the most significant secondary complications of advanced diabetes.

**Coronary NET Burden and DNase Activity in STE-ACS (p 1182)**

*Yan et al* identify the long non-coding RNA MIAT as a proangiogenic factor in diabetic retinopathy.

Formation of a large thrombus after acute plaque rupture leads to poor tissue perfusion and is associated with high morbidity and mortality. Researchers are therefore investigating ways to rapidly breakdown such thrombi to re-establish blood flow in affected patients. Mangold and colleagues now suggest that one method could be to eliminate chromatin NETs—or neutrophil extracellular traps—from the thrombi. Neutrophils release their own nuclear DNA and proteins (chromatin) in the form of NETs to ensnare pathogens and stimulate proinflammatory responses—much the same way Spiderman catches villains in his web. However the formation of these sticky, stringy traps can be problematic if they coincide with thrombus formation. By analyzing thrombi from 111 male patients with acute coronary syndrome, Mangold and colleagues found that the abundance of NETs in thrombi was positively correlated with both the abundance of NETs and infarct size. Encouragingly, however, the patients’ DNase level negatively correlated with infarct size. Mangold and colleagues now suggest that one method could be to eliminate NETs from thrombi to re-establish blood flow in affected patients.