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IN BRIEF

BARRETT OESOPHAGUS

Statin use reduces risk of oesophageal adenocarcinoma

A nested case–control study of male patients with Barrett oesophagus, who were identified from national Veteran Affairs outpatient files, was analysed for the effect of statin use on the development of oesophageal adenocarcinoma (OAC). A cohort of 856 patients with Barrett oesophagus only (controls) were compared with 311 patients with Barrett oesophagus and subsequent OAC. A substantially lower percentage of patients with OAC used statins for 6–18 months (10.0% versus 17.1% controls) and >18 months (19.3% versus 24.0% controls). Statin use was inversely associated with OAC development (OR 0.65; 95% CI 0.47–0.91) and the protective influence was most notable against advanced-stage OAC and increased with statin dose.

Original article Nguyen, T. *et al.* Statin use reduces risk of esophageal adenocarcinoma in US veterans with Barrett's esophagus: a nested case-control study. *Gastroenterology* doi:10.1053/j.gastro.2015.07.009

STEM CELLS

Functional stomach tissue developed in culture

Mouse embryonic stem cells have been differentiated into mature stomach tissue by inducing mesenchymal *Barx1*, a gene that drives stomach development in cells from the gut endoderm. In 3D cultures, *Barx1* induction led to the generation of spheroids that develop into mature stomach tissue, modelling both corpus and antrum. Gene expression profiles of these cells mimic the adult stomach and they are capable of pepsinogen and gastric acid secretion. In addition, a stomach disease model for Ménétrier disease was created by overexpressing *TGFA*, which caused the characteristic hypertrophic mucus and loss of acid production.

Original article Noguchi, T.-A. K. *et al.* Generation of stomach tissue from mouse embryonic stem cells. *Nat. Cell Biol.* doi:10.1038/ncb3200

LIVER

Regulation of lipid profiles by the autonomic nervous system

Sympathetic and parasympathetic hepatic innervation actively influences VLDL triglyceride secretion. In a model of obese Zucker rats, researchers surgically denervated the sympathetic or parasympathetic hepatic nerve. Removing sympathetic innervation reduced VLDL triglyceride secretion and plasma concentrations after 6 weeks, whereas parasympathetic denervation increased plasma levels of total cholesterol, suggesting a novel treatment target.

Original article Bruinstroop, E. *et al.* Hepatic denervation and dyslipidemia in obese Zucker (fa/fa) rats. *Int. J. Obes. (Lond.)* doi:10.1038/ijo.2015.122

HEPATITIS

Prenylation inhibition is effective for chronic HDV infection

Formation of the hepatitis delta virion relies on prenylation, a post-translational modification that can be inhibited using lonafarnib. In a phase IIA double-blind, randomized, placebo-controlled study, 14 patients with chronic HDV infection received different concentrations of the inhibitor or placebo, and a dose-dependent reduction in virus levels was evident in treatment groups. Adverse events were mild to moderate.

Original article Koh, C. *et al.* Oral prenylation inhibition with lonafarnib in chronic hepatitis D infection: a proof-of-concept randomised, double-blind, placebo-controlled phase 2A trial. *Lancet Infect. Dis.* doi:10.1016/S1473-3099(15)00074-2