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IN BRIEF

ROTAVIRUS

Inflammasome modulates rotavirus infection

Rotavirus is a leading cause of severe diarrhoea in children but how host intestinal epithelial cells (IEC) detect and respond to rotaviral infections remains unresolved. Inflammasome activation often promotes host defence mechanisms and Zhu *et al.* observed increased caspase-1 activity (indicative of inflammasome activation) in suckling pups inoculated with mouse rotavirus. Investigating sensor proteins, the researchers focused on NOD-like receptor (NLR) inflammasomes and found that global or IEC-specific deletion in mice of NLRP9B, an uncharacterized NLR, resulted in increased susceptibility to rotavirus infection, suggesting an important role for this protein in protecting against intestinal infection. Furthermore, the investigators determined that NLRP9B responds to rotaviral double-stranded RNA via the RNA helicase DHX9, forming an inflammasome complex that promotes IL-18 immune responses and gasdermin D-mediated pyroptosis of IECs to limit infection. Targeting the IEC-specific NLRP9B might facilitate the development of novel therapeutics for this infectious disease.

ORIGINAL ARTICLE Zhu, S. *et al.* Nlrp9b inflammasome restricts rotavirus infection in intestinal epithelial cells. *Nature* http://dx.doi.org/10.1038/nature22967 (2017)

NAFLD

Increased familial risk of fibrosis in NAFLD

Evidence suggests that NAFLD might be a heritable disease, but the risk of advanced fibrosis in first-degree relatives of probands with NAFLD and cirrhosis was previously unknown. Caussy *et al.* performed a prospective analysis of 26 patients with NAFLD and cirrhosis plus their 39 first-degree relatives, along with a control population of individuals without evidence of NAFLD ($n = 69$) and their first-degree relatives ($n = 69$). Advanced fibrosis, diagnosed using magnetic resonance elastography, was significantly ($P = 0.0032$) more prevalent in first-degree relatives of probands than those in the control population. Additionally, the risk of advanced fibrosis was ~12 times higher (95% CI 1.1–146.1, $P = 0.0438$) in proband first-degree relatives than relatives in the control group, even after multivariable adjustment. These findings suggest fibrosis screening could be considered in relatives of patients with NAFLD and cirrhosis.

ORIGINAL ARTICLE Caussy, C. *et al.* Nonalcoholic fatty liver disease with cirrhosis increases familial risk for advanced fibrosis. *J. Clin. Invest.* http://dx.doi.org/10.1172/JCI93465 (2017)

RECTAL CANCER

No benefit for local excision over rectal excision

Organ preservation strategies (by use of local excision) following a good response to neoadjuvant chemotherapy are an attractive proposition for patients with rectal cancer. However, multicentre randomised trials providing evidence of the benefits of local excision over total mesorectal excision (TME) were previously absent. Now, in the GRECCAR 2 study, good clinical responders were randomized to receive either local excision ($n = 74$) or TME ($n = 71$). At 2 years after surgery, one or more adverse events from a composite primary outcome occurred in 56% of the local excision group and 48% of the TME group (OR 1.33, 95% CI 0.62–2.86, $P = 0.43$). As 26 patients from the local excision group had a completion TME that increased morbidity, local excision was not shown to be superior to TME in terms of morbidity and long-term function.

ORIGINAL ARTICLE Rullier, E. *et al.* Organ preservation for rectal cancer (GRECCAR 2): a prospective, randomised, open-label, multicentre, phase 3 trial. *Lancet* http://dx.doi.org/10.1016/S0140-6736(17)31056-5 (2017)