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IN BRIEF

PAEDIATRICS

Is oral or subcutaneous methotrexate superior for paediatric Crohn's disease?

Oral, rather than subcutaneous, methotrexate avoids weekly injections, reduces costs and might improve quality of life in children with Crohn's disease. 226 children with Crohn's disease were included in a study to assess methods of administration of this drug. The subcutaneous route was found to be superior to oral administration; however, the authors highlight that these findings were only true for some outcomes, and with a modest effect size. In some children in complete remission, it might be reasonable to consider switching from subcutaneous to oral methotrexate, although close monitoring is needed.

Original article Turner, D. *et al.* Efficacy of oral methotrexate in paediatric Crohn's disease: a multicentre propensity score study. *Gut* doi:10.1136/gutjnl-2014-307964

GUT MICROBIOTA

More connections between the brain and the gut revealed

An intact blood–brain barrier (BBB) is vital for regulating the exchange of nutrients and molecules between the circulatory system and the brain parenchyma. Viorica Braniste and colleagues found that germ-free mice displayed increased BBB permeability compared with pathogen-free mice with normal gut microbiota. Exposure of the germ-free mice to a pathogen-free gut microbiota decreased BBB permeability and upregulated the expression of tight junction proteins.

Original article Braniste, V. *et al.* The gut microbiota influences blood–brain barrier permeability in mice. *Sci. Transl. Med.* **6**, 263ra158 (2014)

UPPER GASTROINTESTINAL TRACT

Novel loci associated with eosinophilic oesophagitis

A new genome-wide association study has identified four novel loci associated with eosinophilic oesophagitis. Two of these loci have been previously associated with atopic and autoimmune diseases (*c11orf30* and *STAT6*); meanwhile, *ANKRD27* regulates the trafficking of melanogenic enzymes to epidermal melanocytes and *CAPN14* encodes a calpain that is highly enriched in the oesophagus. The researchers suggest that these new loci might represent therapeutic targets for eosinophilic oesophagitis, namely oesophageal inflammation and remodelling.

Original article Sleiman, P. M. *et al.* GWAS identifies four novel eosinophilic esophagitis loci. *Nat. Commun.* doi:10.1038/ncomms6593

VIRAL HEPATITIS

First-in-man study of HCV vaccine

HCV infects millions of people worldwide, and a protective vaccine is urgently needed. A study in *Science Translational Medicine* reports on the first-in-man study of an HCV vaccine. The researchers assessed a heterologous prime-boost vaccination strategy and found that this approach led to durable, broad, sustained and balanced T-cell responses. These responses were similar to those associated with viral control in natural infection.

Original article Swadling, L. *et al.* A human vaccine strategy based on chimpanzee adenoviral and MVA vectors that primes, boosts and sustains functional HCV-specific T cell memory. *Sci. Transl. Med.* **6**, 261ra153 (2014)