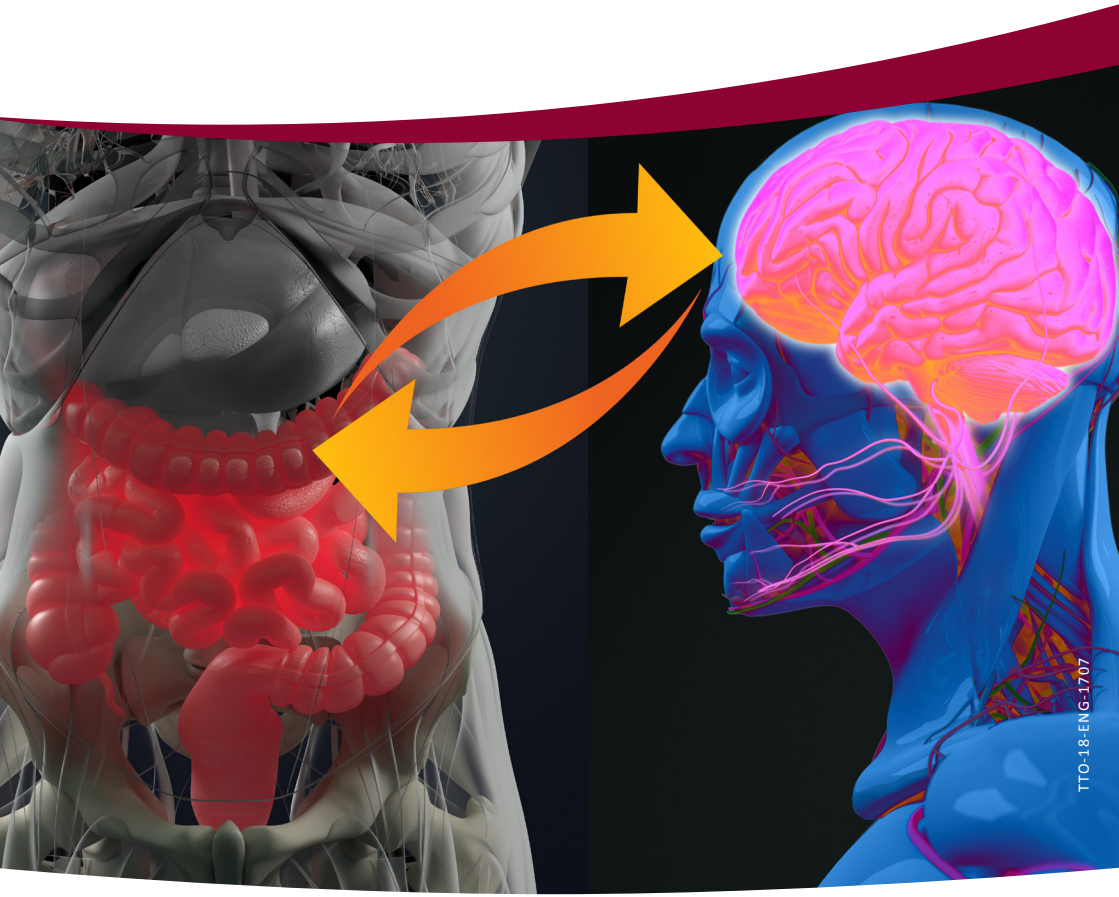
Technology offer:
Validated gastrointestinal model of visceral pain for preclinical drug testing

The University of Antwerp has developed a validated gastrointestinal models for visceral pain which can be used for in vivo proof of concept of new lead compounds. Pharmaceutical companies looking to test a preclinical candidate for further development in visceral pain-related pathologies can benefit from this established expertise.



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LEMP
Laboratory Experimental Medicine & Pediatrics
University of Antwerp

Situation before

Visceral pain or hypersensitivity is a well-known problem in *e.g.* the irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD). Currently no therapeutic strategies are available that work through normalizing the visceral pain sensation. The presence of huge unmet needs is a result of the lack of a significant number of drugs approved by the FDA. For the treatment of IBS there are only four approved medications on the market: two 5-HT3 antagonists, linaclotide and lubiprostone. The use of off-label drugs is also a common practice but causes several adverse side effects.

Technology

UAntwerp: The laboratory of Gastroenterology and Hepatology (part of LEMP, www.uantwerpen.be/lemp) has a **validated** in house rat model of visceral pain to evaluate new lead compounds. In this **IBS model** (post-inflammatory rat model) the inflammation has endoscopically subsided and the presence of visceral pain is clearly established. Visceral sensitivity is measured via the visceromotor response (VMR) to a colorectal distension. **An in vivo proof of concept** has already been obtained with this model, using an in-house lead compound.

About the researchers - research group

The Laboratory of Gastroenterology and Hepatology (Prof. B. De Winter) has elaborate expertise in the study of gastrointestinal motility and sensitivity and in the immunological mechanisms of intestinal inflammation. They have several experimental gastrointestinal models to measure GI inflammation in an acute, chronic and/or post-inflammatory setting: (i) rat and mouse TNBS and DSS colitis, (ii) mouse chronic colitis transfer model and (iii) the golden standard septic model of caecal ligation and puncture (CLP). They are well equipped to measure in vitro GI contractility, peristalsis, in vivo motility, next to permeability assays, and pain assays including the visceromotor response (VMR) and in vitro afferent nerve recordings.
LEMP belongs to the research Consortium of Excellence Infla-Med at the University of Antwerp (www.uantwerpen.be/infla-med) which performs preclinical research in the field of inflammatory diseases.
LEMP is also a partner of the **FWO-SBO project 'TRP channel sensitization as target for treatment of hypersensitivity'** in collaboration with the University of Leuven (2017-2020).

More information

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