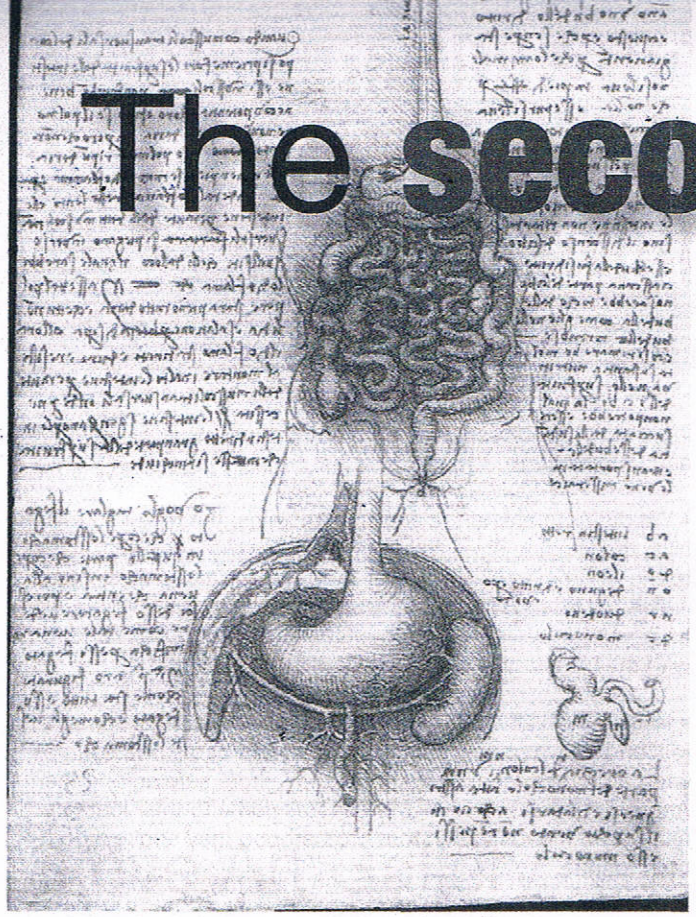

The second brain

By Bryan Hubbard

In 1992, after rediscovering a network of neural tissue in the gut that acts in a similar way to ordinary neurons, Dr Michael Gershon, chairman of the department of anatomy and cell biology at New York–Presbyterian Hospital/Columbia University Medical Center, an expert in the new field of neurogastroenterology, christened this phenomenon "the second brain".

He and others have since found that the enteric nervous system, as its technically known, consists of some 30 neurotransmitters and vast sheaths of neurons embedded all along the nine meters of our alimentary canal – 100 million of them in all, more than are present in either the spinal cord or peripheral nervous system. In fact, the self-same genes involved in the formation of synapses between neurons in the primary brain are also involved in the formation of synapses in the gut brain.

In some ways, the second brain is autonomous, controlling gut behaviour "on site" and independently of the actual brain, according to Gershon. "The brain in the head doesn't need to get its hands dirty with the messy business of digestion, which is delegated to the brain in the gut."

But even more surprising is that the primary brain is often informed about the rest of the body from the gut brain, and not the other way round. The scientific community were recently shocked to learn that some 90 per cent of fibres in the vagus, the longest cranial nerve in the body, were delivering information from the gut to the brain, but not the other way around.

Scientists like Gershon are only now conceding what alternative practitioners have long known: the second brain may play a major role in a large array of diseases.

All manner of modern-day illnesses – in fact, most of the chronic problems for which conventional medicine has no answer – joint and muscle pain, skin conditions of every variety, mood problems, allergies, sleep problems, general immune dysfunction, emotional or mental problems of all varieties, even autoimmune diseases like motor neurone disease, rheumatoid arthritis and some forms of diabetes – link back to disturbances in the digestive system.

In preliminary studies, researchers from Columbia University Medical Center have even demonstrated that a hormone secreted from the enteric nervous system is able to regulate bone mass and counteract osteoporosis.

Dr Alan Ebringer of London's Middlesex Hospital has linked ankylosing spondylitis, a painful arthritic disease resulting in progressive stiffening of joints, with a type of bacteria that lives in the bowel and feeds off carbohydrate residues. Many patients have resolved their long-standing conditions simply by switching to a low-carb diet.

As *What Doctors Don't Tell You* reports, UK general practitioner Dr Sarah Myhill, who has treated thousands of CFS patients successfully, has made the connection between chronic fatigue and poorly functioning mitochondria, the cause of which, in most cases, lies in allergies, diet or faulty digestion.

(The magazine also details how succesful treatment of Crohn's disease with alternative measures, including how Karen Ward beat her crippling illness by adopting an anti-inflammation diet, and Kiasha Patel's mother substituted dietary treatment for the cocktail of six powerful drugs given to her 14-year-old daughter for her inflamed gut.)

Perhaps the most surprising element of Gershon's work is the discovery of the degree to which our second brain influences our emotions. This is not simply due to indigestion, but to the likelihood that our emotional equilibrium may rely on the subtle communication going on from one brain to the other. Indeed, some 95 per cent of the body's serotonin – the feel-good hormone associated with mood – resides in the gut, not the brain.

Work going on now at the University of California at Los Angeles is examining how the human biome – the trillions of bacteria residing in the gut – communicates with nervous system cells, and how this affects our emotions and mood.

Factor in the state of the gut bacteria and their ability to communicate with the gut brain, and you begin to recognize how central digestion is to overcoming all manner of physical and even mental illness.

What goes on in your bowel has everything to do with what goes on elsewhere in your body. The Hermetic tradition coined the phrase "as above, so below" and believed it to hold the key to all the mysteries of the universe. When it comes to the mystery of illness, it may well be "as below, so above".

SOURCE: http://community.wddty.com/blogs/lynnemctaggart/archive/2015/08/24/The-second-brain.aspx