Neurobiological Mechanism of Acupuncture for Relieving Visceral Pain of Gastrointestinal Origin

It is currently accepted that the neural transduction pathways of gastrointestinal (GI) visceral pain include the peripheral and central pathways. Existing research on the neurological mechanism of electroacupuncture (EA) in the treatment of GI visceral pain has primarily been concerned with the regulation of relevant transduction pathways. The generation of pain involves a series of processes, including energy transduction of stimulatory signals in the sensory nerve endings (signal transduction), subsequent conduction in primary afferent nerve fibers of dorsal root ganglia, and transmission to spinal dorsal horn neurons, the ascending transmission of sensory signals in the central nervous system, and the processing of sensory signals in the cerebral cortex. Numerous peripheral neurotransmitters, neuropeptides, and cytokines participate in the analgesic process of EA in visceral pain. Although EA has excellent efficacy in the treatment of GI visceral pain, the pathogenesis of the disease and the analgesic mechanism of the treatment have not been elucidated. In recent years, research has examined the pathogenesis of GI visceral pain and its influencing factors and has explored the neural transduction pathways of this disease.