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Poster Sessions

Increase in Thermo-sensitive TRP Channel-Expressing Neurons in Acid Reflux Esophagitis Model Rats

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TRPV1 expressing on sensory neurons in mouse lower esophageal sphincter (LES) is considered as association with heartburn symptoms in patients with acid reflux esophagitis (RE). In the present study, we examined changes in TRPV1 and TRPM8 expressions in LES in RE model rats. RE was produced by wrapping duodenum with Nelaton catheter, and ligating the transitional zone between the forestomach and the glandular portion with silk thread under anesthesia. TRP channel and neuronal markers in rat LES were detected by using immunohistochemical staining. In normal rats, numerous TRPV1 nerve fibers were detected in mucosal and submucosal layers. TRPM8-expressing cell bodies were observed in myenteric plexus. In double labeling studies, TRPV1 partly colocalized with calcitonin gene related peptide (CGRP), substance P and neuronal nitric oxide synthase (nNOS) on nerve fibers. In RE model rats, TRPV1-expressing nerve fibers were increased mainly in muscle and mucosal layers. Moreover, TRPM8-expressing cell bodies were increased in myenteric plexus. In conclusion, we suggest that increased TRPV1-expressing nerve fibers and TRPM8-expressing cell bodies were found in myenteric plexus in RE model rats, which might be responsible for heartburn in RE.☒