

**BS05 Histological aspects of Therapeutic effects of Stable gastric pentadecapeptide BPC 157 on stomach perforation**Petra Horvat<sup>a</sup>, Marjeta Linarić Lipnjak<sup>a</sup>, Matej Lacković<sup>a</sup><sup>a</sup> Department of Pharmacology, School of Medicine, University of Zagreb, Zagreb, CroatiaDOI: <https://doi.org/10.26800/LV-145-supl2-BS05> Petra Horvat 0009-0007-4632-208X, Marjeta Linarić Lipnjak 0009-0009-0778-3582, Matej Lacković 0009-0001-1830-5916**KEYWORDS:** BPC 157; histology; pharmacology; stomach perforation**INTRODUCTION/OBJECTIVES:** We focused on histological aspects of the cytoprotective effects of Stable gastric pentadecapeptide BPC 157 after stomach perforation in rats was performed.**MATERIALS AND METHODS:** After performing stomach perforation on anesthetized and laparotomized Wistar rats, to one group of animals BPC 157 (10 µg or 10 ng/kg) was applied, and to the other saline (1 ml/rat) was applied through the perforated defect in the stomach. BPC 157-treated and saline-treated groups were sacrificed 15 and 60 minutes after perforation. Representative tissue specimens of the liver, brain, stomach, kidney, small and large intestine, heart, and lungs fixed in 10% formalin were embedded in paraffin. Cross sections were stained with hemalaun and eosin and analyzed under a light microscope. Appropriate pathological scoring systems were used to grade injury.**RESULTS:** In saline-treated animals, cerebral hemorrhage of the neocortex was present together with congestion in all mentioned organs. In BPC-157 treated rats there were no changes in the heart, liver, and kidney, with only mild congestion of the lung and small cerebral hemorrhage of the neocortex. In the control group, margins of stomach perforation showed mucosal congestion. Transmural hyperemia was present in perforation margins and the rest of the stomach wall. Contrary, in BPC-157 rats only mild mucosal congestion was observed at perforation margins.**CONCLUSION:** BPC-157 shows a beneficial effect in healing the perforated defect. As seen histologically, it reduces congestion and hemorrhage in organs.**BS06 ISOSORBIDE-5-MONONITRATE INDUCED PERIPHERAL AND CENTRAL VASCULAR DYSFUNCTION IN RATS AND TREATMENT WITH STABLE GASTRIC PENTADECAPETIDE BPC 157**Vlasta Vuković<sup>a</sup>, Hrvoje Vraneš<sup>a</sup>, Luka Kalogjera<sup>a</sup><sup>a</sup> Department of Pharmacology, School of Medicine, University of Zagreb, Zagreb, CroatiaDOI: <https://doi.org/10.26800/LV-145-supl2-BS06> Vlasta Vuković 0009-0004-3095-6289, Hrvoje Vraneš 0000-0003-3544-8385, Luka Kalogjera 0000-0002-1703-0033**KEYWORDS:** BPC157; IS-5-MN; migraine; pharmacology; vascular dysfunction**INTRODUCTION/OBJECTIVES:** Introduction: Although the understanding of migraine pathophysiology is incomplete, it is now well accepted that this neurovascular syndrome is mainly due to cranial vasodilation. Several experimental migraine models have been developed, including the use of a nitric oxide (NO) donor, such as isosorbide-5-mononitrate (IS-5-MN). Nitric oxide regulates cerebral and extracerebral cranial blood flow and arterial diameters. We observed the therapeutic effects of stable gastric pentadecapeptide BPC 157 on peripheral and central vascular dysfunction caused by IS-5-MN administration.**MATERIALS AND METHODS:** Materials and methods: We used deeply anesthetized male Wistar rats, weighing 250 g. IS-5-MN was administered in the solution, intraperitoneally (four groups; 20 mg, 30 mg, 40 mg, 50 mg). We divided each group into controls and treated animals and applied saline bath intraperitoneally (1 ml solution) to the control group and BPC157 (10 ng/mL, 1 ml solution) to the treated group. 5 minutes after administration, we monitored macroscopic organ features, volume assessment with Image J and blood pressures in: inferior caval vein, portal vein, aorta and superior sagittal sinus.**RESULTS:** Results: In the control group, volume assessment with Image J showed macroscopic signs of brain edema, heart congestion, caval and portal vein congestion and collapsed aorta and azygos vein. Regarding blood pressures, rats in the control group had portal hypertension, caval hypertension, increased intracranial pressure and aortic hypotension. These effects were counteracted in BPC 157 treated rats.**CONCLUSION:** Conclusion: We found beneficial effects of BPC 157 in the treatment of IS-5-MN induced peripheral and central vascular dysfunction which was observed as a migraine model.