BS11 The effects of a varying doses of pilocarpine and lithium induced status epilepticus, and treatment with BPC-157

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DOI: https://doi.org/10.26800/LV-145-supl2-BS11

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KEYWORDS: BPC-157; Lithium; pharmacology; pilocarpine; Status epilepticus

INTRODUCTION/OBJECTIVES: Peptadecapeptide BPC -157 has been reported to have a large spectrum of in vivo activities, from anti-ulcer to central action on the brain dopaminergic system, in addition to the aforementioned, BPC-157 might counteract standard convulsant induced seizures, insulin-, paracetamol-, alcohol withdrawal- and serotonin-syndrome-induced convulsion. The pilocarpine model of temporal lobe epilepsy uses a cholinomimetic convulsant, pilocarpine, to induce status epilepticus; as a result, hippocampal damage occurs thus resulting in the development of spontaneous recurrent seizures. In rats, pilocarpine can be administered with lithium, thus significantly reducing the pilocarpine dose required to induce status epilepticus and resulting in a higher percentage of animals developing status epilepticus.
MATERIALS AND METHODS: We reported the effect of the BPC-157 (given in doses of 10 μg/kg, 10 ng/kg), L-NAME (5 mg/kg), L-arginine (100 mg/kg), given intraperitoneally alone and/or combined on the status epilepticus in rats induced by pilocarpine and lithium given by intraperitoneal application. Pilocarpine was administered in a variety of doses 60, 80 and 120 mg/kg, accompanied by a lithium dose of 127 mg/kg.
RESULTS: BPC-157 application partially counteracted pilocarpine/lithium convulsions. L-NAME consistently aggravated the convulsion presentation and was associated with a fatal outcome during the observation period. Interestingly, L-arginine also consistently aggravated the convulsion presentation. When given together, these aggravating effects did not counteract each other. These effects were consistently attenuated by the BPC-157 application.
CONCLUSION: In conclusion the pilocarpine/lithium convulsions are mitigated by BPC-157. Since L-NAME and L-arginine effects did not counter each other in effect, another non-NO-system might also be involved.

BS12 The effects of pentadecapeptide BPC 157 on the healing of the incisional skin wound in rats

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DOI: https://doi.org/10.26800/LV-145-supl2-BS12

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KEYWORDS: BPC 157, incision, wound healing,skin

INTRODUCTION/OBJECTIVES: Healing of the wounds is accomplished by: the resolution of vessel constriction, the primary platelet plug formation, the fibrin mesh which acts to stabilize the platelet plug and finally resolution of the clot. By simultaneously curing cutaneous and other tissue wounds (colocutaneous, gastrocutaneous, esophagocutaneous, duodenocutaneous, vesicovaginal, and rectovaginal) in rats, the potency of stable gastric pentadecapeptide BPC 157 (Body Protective Compound 157) has been already proven. We focused on the unexplored therapy effect of BPC 157 on an incisional wound.
MATERIALS AND METHODS: Male Wistar rats, 180-220 g body mass, were used in this experiment. Animals were divided into two groups, the treated group received 10 μg/kg BPC 157 1mL topically immediately after wound induction, and the control group received an equal volume of saline. Rats were anaesthetized and the surgical site was shaved and prepared for the procedure. Scalpel (size 12) was used to make a skin wound in the middle line on the back of the animals. The wound was observed and photographed 2, 5, 7 and 10 days after the procedure and tissue specimens were prepared for histology after sacrifice on the 10th day.
RESULTS: Reticulin and collagen formation in BPC 157-treated animals were accelerated compared with controls. Treated animals showed fully developed reticulin fibres already after 10 days. Macroscopically, wound healing was healing faster in BPC 157 treated group.
CONCLUSION: BPC 157 exhibits a strong, promoting involvement in the healing process of incisional skin wounds in a rat experimental model.