

BS03 Effects of Stable gastric pentadecapeptide BPC 157 and osteogenic material on bone regeneration in mandibula

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INTRODUCTION/OBJECTIVES: INTRODUCTION: Our work was focused on the effect of Stable gastric pentadecapeptide BPC-157 on the osteointegration of synthetic hydroxyapatite in a 2mm cavity located on the left mandibular body

MATERIALS AND METHODS: MATERIALS AND METHODS: After drilling a 2mm hole using a surgical drill in the mandibular body of anesthetized Wistar rats, the cavity was filled using synthetic bone particles of hydroxyapatite. BPC 157 (10µg/kg or 10ng/kg) was applied to one group while the other group received saline solution (1ml/rat). Solutions were given directly to the injury after which it was treated using stitches. The control group of rats was given food and water for the next 2 months while the BPC-157 treated rats were drinking the BPC-157 solution instead of regular water. The rats were scanned twice at intervals of 1 month using an x-ray machine. After 2 months the rats were sacrificed and the heads were stored in 4% formalin.

RESULTS: In the control saline-treated group there were visible fragments of synthetic bone particles around the filled cavity as well as visible non-continuity of the bone meaning the bone did not regenerate fully. In BPC-157 treated rats the synthetic bone fragments around the cavity have been absorbed and the visible continuity of the bone is present which indicates that the bone had healed much faster.

CONCLUSION: CONCLUSION: Animals treated with BPC-157 have shown much better results in bone and injury healing as seen on radiographical images.

BS04 Hepatoprotective effects of BPC-157 - paracetamol overdose

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KEYWORDS: BPC-157; hepatotoxicity; paracetamol; pharmacology

INTRODUCTION/OBJECTIVES: Paracetamol, also known as acetaminophen, is a widely used medication to treat pain and fever. As it's one of the over-the-counter medications, it's easily accessible to everyone. Its mechanism of action is the inhibition of prostaglandin synthesis in the CNS to reduce hyperalgesia. It also influences the thermoregulatory center in the hypothalamus and lowers fever. 90-95% of paracetamol is metabolized in the liver where it's conjugated with glucuronic acid and sulfates into inactive metabolites, and the rest via cytochrome-p450. Its main side effect is hepatotoxicity and acute liver injury. Here we investigate the hepatoprotective effects of BPC-157 while administering a toxic dose of paracetamol intraperitoneally in rats.

MATERIALS AND METHODS: The dose of paracetamol was 5 g/kg and we used deeply anesthetized Wistar rats that weighed 250g. After anesthetizing the rats, a craniotomy was performed. After that, paracetamol was administered intraperitoneally along with BPC-157 (10 ng/1mL, 1 mL solution) in treated groups or saline (1 mL) in control groups. 10 minutes after the administration the brain swelling and ECG were recorded, and 15 minutes after, abdominal veins were photographed.

RESULTS: When comparing the sizes of abdominal veins and brains of rats that were given BPC-157 and those that were not, we can see a difference in swelling. It's more apparent in the control group. On some ECG recordings, STEMI was detected in the control group, while no similar findings occurred in the BPC-157 group.

CONCLUSION: We can see that the toxicity of paracetamol on the brain and blood vessels was mitigated when BPC-157 was administered.