Abstracts

Basic Science

BS01 Effect of Pentadecapeptide BPC 157 on Hemodynamic and ECG Disorders Caused by Sotalol in Wistar Albino Rats

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INTRODUCTION/OBJECTIVES: The cytoprotective stable gastric pentadecapeptide BPC 157 has already shown beneficial cardiovascular, antiarrhythmic, antiocclusive effects. In this research, we examined the effect of BPC 157 on hemodynamic disorders caused by sotalol, a class II and III antiarrhythmic.
MATERIALS AND METHODS: Albino Wistar rats were administered sotalol (80 mg / kg, intragastric) and treated with saline or BPC 157 (10 ng / kg, 1mL, intragastric) for 5 minutes thereafter. In deeply anesthetised rats, with a cannula connected to a pressure transducer), inserted into the portal vein, inferior caval vein and abdominal aorta at 15 min 90 min or 180 min after sotalol. The superior sagittal sinus was cannulated then after laparotomy, the pressure recording in the portal vein, inferior vena cava, and abdominal aorta was performed.
RESULTS: In the control group, an increase in superior sagittal sinus pressure (12 ± 11 mmHg), as well as an increase in portal vein (18 ± 1 mmHg) and inferior caval vein pressures (12 ± 1 mmHg) were noted, along with the decrease in abdominal aortic pressure (52 ± 2 mmHg). These effects were attenuated in BPC treated animals (-2 ± 1 mmHg for superior sagittal sinus, 6 ± 1 mmHg in portal vein, 5 ± 1 mmHg in inferior caval vein, and 83 ± 2 mmHg in abdominal aorta).
CONCLUSION: In summary, BPC 157 attenuated detrimental hemodynamic effects of sotalol while the effects on ECG parameters were also noted, but not as lasting, as hemodynamic ones, supporting the view of BPC 157 as a rapid-acting protective agent.

BS02 Effect of Pentadecapeptide BPC 157 on Hypercalcaemia in Rats

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KEYWORDS: BPC 157, hypercalcaemia, pharmacology

INTRODUCTION/OBJECTIVES: Isolated from gastric juice stable pentadecapeptide BPC 157 has already shown cytoprotective and organoprotective properties. Beneficial effects of BPC 157 on various organic systems such as cardiovascular, digestive, skeletomuscular system have already been proven. Focus of this research is hypercalcaemia and its effects on general function of the organism, ECG and haemodynamic and their presentation after BPC 157 administration.
MATERIALS AND METHODS: CaCl2 was administrated to Albino Wistar rats(250mg/kg, intraperitoneal) after which saline(1ml) or BPC 157(10ng/kg, 1ml, intraperitoneal) were immediately applied. Subjects were observed for 9 minutes after administration, and every 3 minutes their motoric function was tested on rotating grid. ECG leads were than recorded as well as blood pressures in superior sagittal sinus, inferior caval vein, superior mesenteric vein and aorta. Brain and internal organs were recorded.
RESULTS: Nontreated animals showed muscle weakness very early while testing motoric functions. BPC 157 treated animals stayed on rotating grid while nontreated animals were often falling. Blood pressures measured in superior sagittal sinus, inferior caval vein and superior mesenteric vein in nontreated animals were higher than blood pressures in BPC 157 treated animals. Aortic blood pressure of nontreated animals was lower than aortic pressure in treated ones. Brain of nontreated animals had visible oedema while brain of treated animals didn't. Nontreated animals developed gastric and duodenal stress ulcers whereas treated didn't. Nontreated animals developed acute pancreatitis whereas treated had less lesions.
CONCLUSION: In summary, BPC 157 mitigated disruptive effect of hypercalcaemia on motoric functions as well as cardiovascular functions and reduced negative effect on internal organs.