Stable Gastric Pentadecapeptide BPC 157 Antagonized Local Anesthetic Effect of Lidocaine

Mariam Samara[a], Vilim Dretar[a], Helena Žižek[a], Emma Orešković[a], Filip Radevski[a]

[a]*School of Medicine University of Zagreb*

Mariam Samara 0000-0003-2384-273X, Vilim Dretar 0000–0002–3969–712X, Helena Žižek 0000-0001-9863-4164, Emma Orešković 0000-0003-4956-318, Filip Radevski 0000-0001-7556-165

Key words: BPC, convulsions, rats

We documented that stable gastric pentadecapeptide BPC 157 counteracts convulsions induced by concomitant application of atypical neuroleptic, SSRI and NSAID, risperidone, citalopram and metamizole in rats. BPC 157, LD1 not achieved, was implemented as an anti-ulcer peptide in inflammatory bowel disease trials and now in a multiple sclerosis trial. Previously, BPC 157 counteracts consequences of dopamine (D), receptors blockade (neuroleptics-induced catalepsy, prolonged QT intervals, sphincters dysfunction and gastric lesions), much like over-stimulation (amphetamine acute and chronic disturbances; much like Dreceptors supersensitivity (amphetamine after haloperidol)), nigrostriatal lesions (MPTP Parkinsogenic neurotoxin), D-vesicles depletion (reserpine). Similarly, BPC 157 counteracts immobility more than imipramine in depression-models (Porsolt's and chronic unpredictable stress-open field) and induces 5-HT release in particular brain areas (nigrostriatum) when given peripherally, acute and chronically. Also, BPC 157 counteracts convulsions induced by various convulsants (picrotoxine, strychnine, bicuculline) much like either with insulin or with paracetamol. we applied (mg/kg) risperidone 2.5 mg/kg, citalopram 2.0 mg/kg and metamizole 2.0 intraperitoneally. Medication (mg/kg), given 15 min before, or immediately after, includes BPC 157(0.01; 0,00001) while control rats received an equivolume of saline (5 mL/kg). Thereafter, at 20 minutes after medication risperidone/citalopram/metamizole rats became markedly sedated. Then, after the next 20 minutes they start with tonic-clonic seizures. The seizure period was lasting for the next 3 hours. Contrarily, either of BPC 157 regimens maintained normal behavior in all rats. BPC 157 exhibits also an anticonvulsant capacity, as well as a particular profile, which could in a therapy of neuroleptic, SSRI and NSAID intoxication.