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Pentadecapeptide BPC 157 and perforating corneal injury in rat

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The effect of human gastric pentadecapeptide BPC-157 on healing of perforative corneal injury in rats was evaluated. The study included 100 male Wistar albino rats, 280-320 g body weight, divided in to 4 groups (n=25). The randomization protocol was generated by the Random Allocation Software Version 1.0, 2004. Penetrant linear incision 2 mm was performed under deep anesthesia with ketamine, 20 mg/kg i.p. and diazepam, 6 mg/kg , along with topical anesthetic oxibuprocaine 0.4%, 2 drops on left cornea paralimbal at 5 o'clock with incision knife 20 Gauge MVR (Bausch&Lomb) under 45°, under operating microscope. Left eye was operated in aseptic conditions by the same surgeon. Lesions were stained by standard 10% flourescein and photographed. Animals were medicated as follows: distilled water (control group) or BPC 157 2 pg/ml, 2 ng/ml, 2 μg/ml, 2 drops per rat's left eye started immediately after injury induction, every 8 hours up to 120 hours . Lesions were photographed before application or sacrifice (at 24, 48, 72, 96, 120 h). Healing process was analysed clinically using Fluorescein test, Seidel test, image analysis software SFORM software, slitlamp and pathohistologically using standard tissue analysis. Throughout 120 h-period a steady recovery is noted in controls. Healing was significantly accelerated in eyes on μg- or ng-topical regimen of BPC 157 ($p<0.05$) during all intervals. BPC 157 was shown to be effective in promoting healing of corneal layers in rats. Results were dose dependent.

Biography

S Masnec is working as an Ophthalmologist in the Department of Anterior Segment of the Eye, at the University Hospital Centre Zagreb. Her special interests are anterior segment eye surgery, cataract surgery, corneal transplantation surgery, and oculoplastic and reconstructive surgery. She has completed her PhD from Zagreb University and Post-doctoral studies from Zagreb University School of Medicine. She has published 17 internationally indexed publications.

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