

Pentadecapeptide BPC 157 therapy in bile duct ligated (bdl) rats

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Pentadecapeptide BPC 157 demonstrates beneficial healing and anti-inflammatory effects on gastrointestinal and many extra - gastrointestinal tissues. Bile duct ligation causes inflammation and fibrotic changes in the liver. We wanted to explore effect of BPC 157 on bile duct ligation (BDL) in rats. Rats received BPC 157 perorally, in drinking water (0.16µg/ml, 0.16ng/ml), or 10 µg/kg, 10 ng/kg intraperitoneally, first application at 30 min after surgery, last at 24h before sacrifice. Alternatively, delayed therapy, BPC 157 perorally, in drinking water (0.16µg/ml), started at the end of week 4 . Controls received simultaneously drinking water or an equal volume of saline (5ml/kg) intraperitoneally. At the end of the 2nd week, quantitative measurement of IL-1, IL-6 and TNF- α has been utilized using ELISA kits and NOS-3 Western Blot Analysis was performed. For assessing cell proliferation rate antibodies of monoclonal mouse Ki-67 were used at the 2, 4, 6, 8 week of BDL. Western blot analysis of NOS-3 expression in liver tissue showed that BPC 157 decreased the expression of NOS-3 protein. At 2 weeks, BDL-rat regularly exhibited the increased TNF- α , IL-6 and IL-1 β liver levels but these values were counteracted with the administration of BPC 157 in drinking water. Since 2nd week until the 8th week, we noted decreased LI of Ki-67. This research shows that BPC 157 decreases hepatocyte proliferative activity, counteracts increased NOS-3 expression, as well as increased IL-6, TNF- α , IL-1 β in liver tissue.