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**Title:** Erythropoietin (EPO) attenuates the expression of its receptor (EPO-R) in bleomycin (BLM)-induced pulmonary fibrosis (PF) in rats

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**Body:** PURPOSE:PF is characterized by apoptosis as well as by inflammation, excessive collagen deposition and fibroblasts' proliferation.The EPO-R is well known to play an important role in the fibrotic-apoptotic pathway. EPO is a multiple functional cytokine with anti-apoptotic, anti-oxidative and anti-inflammatory properties.We looked for the effect of EPO on BLM-induced lung fibrosis, by examining the expression of EPO-R in the lung tissue of rats. MATERIAL AND METHODS: Fifty Wistar rats (300gr) were divided into five groups of 10 animals each:1)control animals,2)intratracheal (i.t) and intraperitoneal (i.p) injection of saline (0.5ml/kg),3)BLM hydrochloride (7.5mg/kg) i.t injection,4)BLM hydrochloride (7.5mg/kg) i.t injection followed by EPO i.p injection (2000 iu/kg),5)saline (0.5ml/kg) i.t injection followed by EPO i.p injection (2000 iu/kg). All rats were sacrificed after 14 days.Immunohistochemical evaluation was performed for the expression of EPO-R.A scale of 4 grades was used for the evaluation of the results: 0-25% (A),25-50% (B),50-75% (C),75-100% (D). RESULTS: In groups 1,2 and 5 (control groups), EPO-R was expressed in the lower grades A (80%) and B (20%). In group 3 (BLM group), EPO-R was expressed in the high grades B (20%), C (70%) and D (10%). In group 4 (EPO group), EPO-R was expressed only in the low grades A (50%) and B (50%). The expression of EPO-R took place in the high grades for BLM group and in the lower grades for BLM+EPO group (p<0.05). CONCLUSION: BLM injection followed by EPO resulted in significant lower expression of EPO-R compared with BLM group. The protective mechanisms of EPO on PF must be further clarified.