BENEFICIAL EFFECTS OF ANTIBACTERIAL PEPTIDE PR-39 IN A NEONATAL MURINE MODEL OF ENDOTOXIC SHOCK

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SUMMARY

The lethal effects occurring in neonatal (<24-h old) BALB/c mice after challenge with E.coli lipopolysaccharide (LPS) were significantly counteracted by pretreatment with antibacterial peptide PR-39. Neonatal mice protection was probably related to the depressive effect of PR-39 on production of TNF-a, known to be the major mediator of the lethal effects of neonatal endotoxic shock. Indeed, TNF-a plasmatic levels were consistently lower in pups pretreated with PR-39 compared with controls. Administration 24 h after challenge was no longer effective. Although PR-39 and anti-TNF-a doses were ineffective alone, when combined at different ratios protected neonatal mice. The present experiments show the potential use of peptide PR-39 in preventing neonatal endotoxic shock.

KEY WORDS: LPS, neonatal shock, peptide PR-39, TNF-a prevention.

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