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穿心莲内酯对表皮葡萄球菌生物被膜作用初探

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中文摘要：目的：通过穿心莲内酯对表皮葡萄球菌生物被膜抑制作用的研究,为表皮葡萄球菌生物被膜菌引起的相关感染提供新的治疗途径。 方法：体外构建表皮葡萄球菌生物被膜,以红霉素作为阳性对照药,利用XTT减低法评价穿心莲内酯对表皮葡萄球菌初始黏附及生物被膜内细菌代谢的影响,显微镜下观察该药对表皮葡萄球菌生物被膜的形态学影响,刚果红培养基法检测穿心莲内酯对PIA(polysacchatide interc-ellular adhesion,胞间多糖黏附素)形成的影响。 结果：穿心莲内酯1 000,100,10 mg·L^{-1}对表皮葡萄球菌的黏附均有抑制作用,质量浓度大于31.25 mg·L^{-1}对生物被膜内细菌代谢有明显抑制作用,质量浓度为250 mg·L^{-1}时对表皮葡萄球菌生物被膜的形态有显著影响,质量浓度为10 mg·L^{-1}时对PIA的形成无影响。 结论：穿心莲内酯对表皮葡萄球菌生物被膜的形成有显著抑制作用,但效果不及红霉素。

中文关键词：穿心莲内酯 表皮葡萄球菌 生物被膜

Preliminary study of effects of andrographolide on *Staphylococcus epidermidis* biofilms

Abstract:Objective: To provide a new therapeutic approach for *Staphylococcus epidermidis* biofilm-associated infections by the study of inhibitory effect of andrographolide(AG) on *S.epidermidis* biofilm. **Method:** *S. epidermidis* biofilms were set up *in vitro*, erythromycin was acted as the positive control agent,XTT reduction assay was used to evaluate AG on the initial adhesion of *S.epidermidis* and bacterial metabolism within biofilm, microscope was applied to observe biofilm morphology, and Congo red assay was used to detect polysacchatide interc-ellular adhesion (PIA)formation when exposed to AG. **Result:** AG showed inhibitory effects against the initial adhesion of *S.epidermidis* at concentrations of 1 000,100, 10 mg·L^{-1},respectively,and inhibited metabolism of biofilm bacteria at the concentration of 31.25 mg·L^{-1},and exhibited significantly inhibition against the biofilm morphology at the concentration of 250 mg·L^{-1}, while did not display inhibition against PIA formation at the concentration of 10 mg·L^{-1}. **Conclusion:** AG could remarkably inhibit biofilm formation of *S.epidermidis*, although it was less potent than erythromycin.

keywords:andrographolide *Staphylococcus epidermidis* biofilms

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