

论文

中药大黄的综合研究 V. 蒽醌衍生物的稳定性、抗菌性质和某些化合物对其抑菌作用的拮抗

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摘要:

本文就大黄的二种主要有效成分——大黄酸和大黄素的稳定性、抗菌性质和拮抗物对其抗菌作用的影响等方面提出初步研究结果: (1)大黄酸和大黄素结晶较为稳定,其溶液对热也较为稳定,但对光很敏感(尤其是大黄酸在碱性溶液中);并且在放置过程中也易被破坏(尤其是大黄素在中性溶液中)。大黄酸和大黄素遭受破坏以后抗菌活性也随之消失。(2)大黄酸和大黄素对金黄色葡萄球菌的最低抑菌浓度分别为15及10微克/毫升,不同培养基对抑菌效应无多大影响。药物浓度高至200微克/毫升仍只呈抑菌而无杀菌作用。(3)金黄色葡萄球菌经过12代的培育对大黄酸不形成抗药性,而对大黄素仍能生长的最高浓度为30微克/毫升。(4)大黄酸和大黄素抑菌作用的拮抗物为核黄素、烟酸、黄嘌呤、谷胱甘肽、鸟苷和叶酸。

关键词:

STUDIES ON CHINESE RHUBARB—V. THE ANTIBACTERIAL PROPERTIES AND STABILITY OF ANTHRAQUINONE DERIVATIVES AND THE ANTAGONISM OF SOME COMPOUNDS TO THEIR INHIBITORY ACTION

CHEN CHIUNG-HUA LIU MING-ZHOU SU HSUEH-LIANG WANG CHIA-YI LI DIEN-DONG

Abstract:

1. Crystalline rhein and emodin are stable. In solution they are relatively heatstable, but very sensitive to light especially in the case of rhein in alkaline solution. After standing emodin was found to be very unstable in neutral solution. Rhein and emodin lose their antibacterial activity in the course of decomposition. 2. Rhein and emodin inhibit S. aureus at a concentration of 15 and 10γ/ml fluid medium respectively. Even at a concentration as high as 200γ/ml, only bacteriostatic but no bactericidal, effect is noted. 3. Serial passage of S. aureus in media containing rhein fails to make it drug resistant. 4. Riboflavin, folic acid, nicotinic acid, glutathione, xanthine, and guanosine exhibited a strong antagonistic action against both rhein and emodin.

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