

论文

人胆汁中罗红霉素代谢产物的研究

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摘要:

目的: 研究人胆汁中罗红霉素的代谢转化产物。方法: 采用高效液相色谱-离子阱质谱法, 对患者po罗红霉素后的胆汁样品进行了分析。结果: 发现了13个代谢产物, 分别为罗红霉素的(9Z)-异构体及其(9E)-, (9Z)-N-去甲基和N-双去甲基衍生物和(9E)-及(9Z)-脱克拉定糖衍生物, (9E)-和(9Z)-红霉素肟及其(9E)-和(9Z)-N-去甲基及N-双去甲基衍生物, 其中9种为新发现的代谢物。结论: 罗红霉素及其代谢物均可在体内发生几何异构化。

关键词: 罗红霉素; 代谢物; 人胆汁; 高效液相色谱-离子阱质谱法

STUDIES ON METABOLITES OF ROXITHROMYCIN IN HUMAN BILE

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Abstract:

AIM: To study the metabolites of roxithromycin (RXM) in the bile of a patient, who had received an oral dose of 150 mg RXM after gallbladder operation. METHODS: High-performance liquid chromatography/ion trap mass spectrometry was used to determinate RXM and its metabolites in human bile. The bile sample was collected, extracted with diethyl ether and separated on a C₁₈ reversed-phase column with (+)ESI-MSⁿ detection. RESULTS: RXM and its thirteen metabolites were identified in the sample based on reference substances and mass spectra. These include descladinose-RXM (M1), erythromycin-oxime (M2) and its N-mono- and N-didemethylated derivatives (M4 and M6), N-mono- and didemethylated derivatives of RXM (M3 and M5), as well as the (9Z)-epimeric isomers of RXM and all its above metabolites (M7~M13). The ratios of (9Z)- to (9E)-isomers were found to be between 0.11~0.79. The parent drug remained was about 20% of the total bile metabolites. CONCLUSION: The metabolic pathways of RXM observed in the human bile are therefore quite different to those in human plasma and urine. The identification of the isomerization of the oximes of RXM derivatives represents a novel biotransformation pathway.

Keywords: metabolites human bile HPLC/MS WORDS roxithromycin

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