

P29. MASS SPECTROMETRIC QUANTITATION OF SERUM CEPHAZOLIN

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Objectives

Cefazolin, a first generation cephalosporin β -lactam antibiotic, is commonly used for prophylaxis during cesarean delivery, and in treatment of pulmonary infections and many surgical procedures. The aim of this work was to develop a simple, fast and accurate liquid-chromatography-mass spectrometry method for determination of serum cefazolin.

Methods

Mass spectrometric analyses were performed using an Shimadzu LC-20-AD (Kyoto, Japan) coupled with a ABSCIEX API 3200 triple quadrupole mass spectrometer (USA) equipped with an electrospray ion source (ESI) operating in positive mode.

Results

The standard curves for cefazolin was linear within the range of 0.39-200 μ g/ml. Total run time was 5 minutes. Chromatographic separation was performed on a C18 column (4.6 \times 50 mm, 5 μ m, Phenomenex Luna) with a mobile phase consisting of 1% formic acid in water and MeOH (10:90, V/V) at a flow rate of 0.8 ml/min.

Discussion

Serum cefazolin measurement can be easily performed by LC-MS/MS system to identify the risk of the patients with therapeutic drug monitoring. This method performs this drug analysis with high throughput.

Conclusions

Exact determination of cefazolin provides reliable levels in clinical studies to avoid toxic effects.

Keywords

Antibiotic levels, mass spectrometry, cefazolin, toxicity.

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