This study aims to determine the stability of a 90 mg/mL cefuroxime sodium solution. Cefuroxime sodium was reconstituted and mixed with 50-mL 0.9% saline to produce 90 mg/mL solution in polypropylene syringes which were stored at 4 °C, 25 °C and 40 °C.


Abstract:

Continuous infusions of β-lactam antibiotics increase pharmacokinetic/pharmacodynamic target attainment. However, this way of administration brings about some practical issues such as stability. This study aims to determine the stability of a 90 mg/mL cefuroxime sodium solution. Cefuroxime sodium was reconstituted and mixed with 50-mL 0.9% saline to produce 90 mg/mL solution in polypropylene syringes which were stored at 4 °C, 25 °C and 40 °C. Cefuroxime sodium concentration was determined periodically over 14 days using a stability-indicating high-performance liquid chromatographic method with ultra-violet detection. The loss in concentration was less than 10% after 2 days of storage at 25 °C and less than 5% after 14 days of storage at 4 °C. The concentration fell below 60% after 1 day at 40 °C. Solutions darken in appearance with time and heat. A 90 mg/mL cefuroxime sodium solution stored in polypropylene syringes is stable for 2 days at 25 °C and for at least 14 days at 4 °C.

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