

COMPATIBILITY AND STABILITY OF MORPHINE AND FUROSEMIDE ADMIXTURE.

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Background: In order to avoid separate injections of different drugs, admixtures of opioids with other drugs used in palliative care are frequently used. There are different factors that can influence the compatibility and stability of the mixture: drug type, concentration, solvent, container, temperature and light. There are some mixtures of opioids with other drugs with proven stability, but there is lack of evidence about the stability and compatibility of the combination of morphine and furosemide.

Purpose: To evaluate the compatibility and stability of the admixture morphine 1.0 mg/ml - furosemide 0.6 mg/ml in NaCl 0.9% stored at ambient room temperature under normal light for at least 30 days.

Material and method: On study day 0, a mixture was prepared and diluted in NaCl 0.9% to obtain 1.0 mg/ml of morphine and 0.6 mg/ml of furosemide and stored at ambient room temperature under normal light.

The concentration of each constituent drug was periodically determined using a HPLC-UV method. The drugs were chromatographed on a C₁₈ reverse phase column; the mobile phase was acetonitrile-water 80:20 (v/v); flow rate 1.5 ml/min. Morphine and furosemide concentrations were determined at 235 nm by interpolation from the calibration curves prepared at (0, 1, 2, 5, 7, 9, 12, 15, 19, 23, 26, 30) days from the standards.

Results and discussion: The admixture remained physically and chemically stable during study period, with no precipitation or colour change and non-significant loss of morphine or furosemide. Statgraphics centurion XVI program has been used to data treatment.

Conclusion: Morphine and furosemide mixture diluted in NaCl 0.9% (concentration 1.0 and 0.6 mg/ml, respectively), is physically and chemically stable from at least 30 days.