

“...determine the chemical compatibility/stability of alfentanil with other supportive drugs in 8 commonly encountered drug combinations, at minimum and maximum concentrations”

Dickman et al (2015).

Reference:

Dickman, A., Roberts, E., Bickerstaff, M., Jackson, R., Weir, P. and Ellershaw, J. (2015) Chemical compatibility/stability of alfentanil with commonly used supportive drug combinations administered by continuous subcutaneous infusions for end of life care. *BMJ Supportive & Palliative Care*. 5(1), p.103.

Abstract:

INTRODUCTION: In 2007, the National Patient Safety Agency recommended that healthcare staff need to have full technical information about compatibility of commonly used mixtures used in specialist areas only. In 2008, the Commission on Human Medicine (CHM) recommended that research should be commissioned to develop authoritative national advice on mixing of medicines to encompass compatibility and stability data. In the UK, a continuous subcutaneous infusion (CSCI) is considered to be the preferred method of drug administration to maintain symptom management at the end of life. Alfentanil is occasionally administered via CSCI and compatibility data are lacking. Analysis of national practice (1) identified 8 commonly used drug combinations administered by CSCI that included alfentanil.

AIMS AND METHODS: To determine the chemical compatibility/stability of alfentanil with other supportive drugs in 8 commonly encountered drug combinations, at minimum and maximum concentrations. A CME T34 syringe pump was used to simulate infusion of the syringe preparation over a 24 hr period. A total of 16 combinations were analysed by High Performance Liquid Chromatography-Diode Array Detection (HPLC-DAD).

RESULTS: Thirteen combinations were identified as compatible by HPLC-DAD. These combinations also remained clear and free from visible particulate matter and the pH remained constant over the monitored period. Three combinations will require additional analysis as the HPLC peaks were small and difficult to distinguish.

CONCLUSIONS: This research is the first step towards providing technical information required by healthcare staff for the mixing of injectable medicines in the same syringe.

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