The role of flumazenil in self harm with benzodiazepines: to give or not to give?

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INTRODUCTION

Flumazenil competitively inhibits the activity of the benzodiazepine (BDZ) at the GABA/BDZ receptor complex. This property allows its use as an antagonist for the effects of BDZs in certain clinical situations. There is, however, continuing contention in one area – its use in patients having taken, or suspected to have taken, an excessive quantity of BDZ, with a low Glasgow Coma score.

THE ARGUMENT AGAINST: DR MULLEAGUE

The number of patients presenting to UK A&Es with self-poisoning continues to increase (Hoffman and Goldfrank, 1995). Co-intoxication is common, and distinguishing between pure and mixed BDZ overdose may be difficult. Many interventions are available, e.g. the 'coma cocktail', i.e. naloxone, glucose, thiamine and flumazenil, but the risk-benefit has to be considered. All have their use, but are not innocuous when blindly administered (Hoffman and Goldfrank, 1995).

Shivering, nausea, tachycardia, increased blood pressure and panic attacks are symptoms of flumazenil administration. Convulsions, dyskinetic syndromes and severe myocardial dysrhythmias are described in patients with co-intoxications (i.e. alcohol tricyclics antidepressants, carbamazepine, chloral hydrate and in chronic BDZ users). Resedation is a recognized problem (National Institute for Clinical Excellence (NICE), 2004), and is unpredictable with co-intoxicated patients.

At a National Poisons Information Service conference (Bradberry, 2000), it was highlighted that flumazenil is not licensed in BDZ overdose and, along with NICE (2004), suggested a very restrictive use policy.

Pure BDZ overdose is rarely fatal, but complications that arise from seizures or arrhythmias induced by flumazenil add to morbidity and mortality. Supportive management with observation alone, or intubation and ventilation, is sufficient to allow the progression of spontaneous recovery without the need to expose the patient to further risk.

THE ARGUMENT FOR: DR TOTE

NICE (2004) and National Poisons Information Service (Bradberry, 2000) support the use of flumazenil – if it will negate the requirement of mechanical ventilation. There are specific contraindications (epilepsy, mixed overdose with tricyclics and phenothiazines and chronic BDZ use), and should only be used judiciously by an experienced clinician. Case reports of seizures and arrhythmias after flumazenil administration are countered by studies that highlight its safety and effectiveness as a therapeutic option (Flumazenil in Benzodiazepine Intoxication Multicenter Study Group, 1992).

In many cases the clinician will be able to gain knowledge of the drugs involved, previous history and should be able to identify or exclude any contraindications with a degree of certainty. Under these circumstances small aliquots of flumazenil followed by an infusion may be enough to prevent necessity for airway manipulation and allow close observation for resedation.

The alternative is to opt directly for intubation; although this is not entirely risk free, with the incidence of difficult intubations (usually 1–4%) rising to 16% in emergency scenarios (Reinys and Snoey, 2002). This is greater than the risk related to the use of flumazenil, with potentially dire consequences.

The author does not advocate the use of flumazenil lightly, but suggests it is in the 'limited use' rather than the 'never use' category.

CONCLUSIONS

The guidelines that are available are open to interpretation and there will continue to be ongoing debate regarding this subject. The pivotal question will always be whether the clinician can rule out any absolute contraindications with certainty, and what degree of certainty is enough? If flumazenil is used, it should be with respect for the potential problems and ability to deal with them if they occur. HM

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