

# Rapid tranquillisation: a questionnaire survey of practice

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A postal survey of the drug treatment of behavioural emergencies by senior registrars and consultants in psychiatry revealed that 90% would initially use a non-depot antipsychotic (including 24% who would combine it with a benzodiazepine if the situation warranted), and 10% the short-acting depot, zuclopenthixol acetate, with another antipsychotic or a benzodiazepine, or both. The choice was made from a restricted range of drugs, with haloperidol being the most popular antipsychotic and diazepam the most popular benzodiazepine. Half of respondents did not consider *British National Formulary* maximum dose recommendations to be useful for rapid tranquillisation and many would exceed them. A substantial minority did not consider that adequate resuscitation was available at their unit and deficiencies were revealed in the training of junior doctors and in the audit of rapid tranquillisation. Very few psychiatrists reported that their units had written guidelines.

The drug management of acutely disturbed psychotic patients (rapid tranquillisation) is an important aspect of psychiatric treatment but the guidance available from standard texts is limited and provides little practical help. Most psychiatrists learn from experience and advice from more senior doctors (i.e. senior registrars and consultants). Recent surveys of junior doctors' practice (Pilowsky *et al.*, 1992) or consultant opinion (Cunnane, 1994) suggest a wide variation in regimes used, some potentially dangerous because of the use of high doses of drugs. There has been recent concern about the use of high dose antipsychotic medication, including in emergency situations (Thompson, 1994).

## The study

Questionnaires were sent to 100 consultants and senior registrars in psychiatry in 12 psychiatric hospitals in the Greater Manchester area including mental handicap and forensic units. The questionnaire presented a brief vignette of an antipsychotic-naïve man with disturbed, violent behaviour for whom emergency drug treatment for tranquillisation was necessary. Information was requested about the psychiatrist's choice of drugs, dosage and views on related issues

including resuscitation and training. If the questionnaire was not returned within four weeks a second one was sent.

Differences between groups of psychiatrists were compared using  $\chi^2$  and *t*-tests.

## Findings

Sixty-nine questionnaires were returned. Two were not completed (one psychiatrist refused and one had retired) leaving 67 completed forms (67%). The results are presented as percentages of the completed questionnaires.

### The sample

Sixty per cent were consultants and 40% were senior registrars. Current posts were 57% in general adult psychiatry (7% with a special interest), 19% in forensic psychiatry, 12% in old age psychiatry and 12% full-time in other specialities (addictions, mental handicap and rehabilitation). Ninety-four per cent treated in-patients and 76% had given or advised on rapid tranquillisation in the last six months. Consultants had practised psychiatry for a mean of 16 years (range 7–30 years) and senior registrars for seven years (range 4–13 years).

### Drug use

For initial management the majority (90%) of psychiatrists would use a single, non-depot, antipsychotic. Twenty-four per cent would combine this with a benzodiazepine (13% from the first dose and another 10% if the situation was extreme or not improving after an antipsychotic alone). Ten per cent would use the short-acting depot, zuclopenthixol acetate (Clopixol Acuphase), always in combination with another antipsychotic or a benzodiazepine, or frequently both. Only three non-depot antipsychotics were chosen, haloperidol (49%), chlorpromazine (34%) and droperidol (15%), and two benzodiazepines, diazepam (19%) and lorazepam (13%). If the first-line antipsychotic drugs had to be given parenterally, 70% would give it intramuscularly, 9% intravenously, 10% by either parenteral route (10% did not specify). Diazepam was nearly

Table 1. Use of specific treatments for rapid tranquillisation

Drug	Would use for rapid tranquillisation?		
	Yes (%)	No (%)	Not stated (%)
Benzodiazepines	91	6	3
Methotrimeprazine	51	49	–
Zuclopenthixol acetate	82	18	–
Depot antipsychotics	54	45	1
Paraldehyde	28	69	3
Barbiturates	21	78	1
ECT	66	34	–

always given intravenously and lorazepam intramuscularly. Drug administration regimes varied widely, from every half hour to eight hourly.

Most (84%) gave drug properties (sedative qualities, potency, rapidity of action and relative safety) as the reason for the initial choice of medication, with 19% citing clinical experience instead or in addition. Seven per cent commented that use of zuclopenthixol acetate avoided repeated injections.

If the initial regime was unsuccessful a variety of options were proposed (the total exceeds 100% as many respondents gave more than one drug or alternative). The most popular response was to change antipsychotic (55%). This nearly always included one of the first-line drugs (haloperidol, droperidol or chlorpromazine); 34% chose zuclopenthixol acetate and 3% chose methotrimeprazine. Changing the route of administration, dose or frequency of the first-line antipsychotic was advocated by 33%. Adding in a benzodiazepine was chosen by 39% of respondents, combining different antipsychotics (not including zuclopenthixol acetate) by 4% and adding a long-acting depot by 6%. Other infrequent suggestions included giving electroconvulsive therapy (ECT), paraldehyde or a barbiturate, reviewing mental state, a physical examination, the treatment of any akathisia and seeking a second opinion. One

respondent could not conceive that the first-line treatment would not work.

Respondents were asked if they used specific antipsychotic preparations, routes of administration and less common or controversial agents. Selected results are shown in Table 1. Twenty-two per cent of respondents stated that they would use intramuscular diazepam.

#### Maximum doses

Forty-five per cent of respondents believed that *British National Formulary* (1995) maximum doses are at least usually relevant for rapid tranquillisation, if only as a guide, but 48% believed that they are usually not relevant. Three per cent thought that they were only relevant for drug-naïve patients and 4% gave no opinion. The median maximum doses of selected drugs that respondents would use are given in Table 2. Modal doses were the same as the medians in nearly all cases.

#### Issues related to practice and training

Respondents were asked to rate their satisfaction with drug and non-drug management of behavioural disturbance in their units on a scale of 0=not at all satisfied to 100=completely satisfied. Eighty-four per cent of psychiatrists answered this question (an additional 10% stated it was not applicable to their situation). The mean satisfaction rating for drug treatment was 68.3 (s.d.=18.6, range 10–100) and for non-drug treatment was 61.3 (s.d.=24.4, range 0–100) indicating a wide range of views.

Forty-eight per cent reported that junior medical staff were trained in the use of drugs for rapid tranquillisation, 27% reported no training and 25% did not know/answer. Sixty-three per cent believed that staff were trained in the management of behavioural disturbance by non-drug measures (3% commented that this applied only to some staff) while 27% reported no or little training and 10% did not know/answer.

Table 2. Maximum doses of selected drugs that respondents would give for rapid tranquillisation

Drug	Oral administration		Parenteral administration	
	Single dose/mg*	Dose in 24hrs/mg*	Single dose/mg*	Dose in 24hrs/mg*
Haloperidol	20 (10–no limit)	120 (40–no limit)	20 (5–no limit)	80 (30–no limit)
Chlorpromazine	200 (100–400)	1000 (400–2000)	100 (50–250)	500 (200–1000)
Droperidol	20 (10–40)	120 (40–480)	20 (5–30)	80 (5–140)
Diazepam	20 (10–30)	60 (10–120)	10 (10–100)	40 (10–200)
Lorazepam	4 (2–10)	12 (4–32)	4 (1–5)	8 (2–24)
Paraldehyde	–	–	10 (10–20)†	20 (10–80)†

\*Doses are median (range)

†Doses are in ml

Forty per cent of psychiatrists had access to an intensive care unit and the same percentage of psychiatrists reported the use of seclusion. When this was related to speciality it applied to 100% of forensic psychiatrists but only 25% of other psychiatrists ( $\chi^2=26.219$ , d.f.=2,  $P<0.001$ ).

Audit of the management of behavioural disturbance was reported by 37% of psychiatrists (79% of forensic psychiatrists and 26% of others,  $\chi^2=12.911$ , d.f.=2,  $P<0.01$ ). Only 15% of psychiatrists reported that their units had written guidelines for rapid tranquillisation (18% did not know/answer). The percentage having written guidelines for the general management of behavioural disturbance was 30% with 22% not knowing/answering.

#### *Resuscitation*

Sixty per cent of psychiatrists believed that adequate resuscitation was available on their units, 19% thought that it was inadequate and 21% did not know/answer or thought it not applicable. There was a trend for fewer senior registrars to be satisfied than consultants (44% v. 70%,  $\chi^2=5.484$ , d.f.=2,  $P<0.06$ ).

#### **Comment**

On the whole psychiatrists chose their initial treatment from a limited range of drugs. As might be expected the majority started treatment with a single antipsychotic, although a quarter would combine this with a benzodiazepine if needed. Haloperidol was the most frequently chosen drug which contrasts with the preference for chlorpromazine in the survey by Cunnane (1994) and accords with the suggestion that high potency antipsychotics may be preferable in this situation to lessen the risk of hypotension (Anonymous, 1991). The combination with a benzodiazepine is consistent with current thinking that it is desirable to avoid very high antipsychotic drug doses when the immediate aim is sedation (Anonymous, 1991; Thompson, 1994). The choice, by a significant minority, of zuclopenthixol acetate as a first-line drug in an antipsychotic-naïve patient, and usually in combination with another antipsychotic, is, however, worrying in view of the risk of administering a long acting drug in this situation. For this reason the Royal College of Psychiatrists' Consensus Statement (Thompson, 1994) recommends that it is only used in extreme circumstances when patients have not been previously exposed to antipsychotic drugs.

The changes in management adopted if the initial response was inadequate reveal no surprises although the high frequency of the use of zuclopenthixol acetate is notable and indicates its increasing acceptance for rapid tranquillisation by psychiatrists. It is also of interest that older

treatments such as paraldehyde and barbiturates have fallen out of favour, probably as a reflection of the relatively high risk-benefit ratio of these drugs. A substantial percentage of psychiatrists would use diazepam intramuscularly in spite of poor absorption by this route (Greenblatt & Koch-Weser, 1976).

About half of psychiatrists thought that maximum doses stated in the *British National Formulary* were not helpful for rapid tranquillisation. In practice the median and modal maximum daily antipsychotic doses psychiatrists would use were very close to the guidelines although they would use higher than recommended single doses of chlorpromazine (which are 75 mg orally, at least initially, and 50 mg parenterally). From this survey it appears that many psychiatrists believe that emergency situations may warrant higher doses of antipsychotics than recommended which is important in view of the increasing medico-legal implications of using doses in excess of *British National Formulary* guidelines. The *British National Formulary* does not give rapid tranquillisation as an indication for benzodiazepines and therefore provides no guidance on dosage in this situation. This is an omission which could usefully be rectified given the Royal College of Psychiatrists' endorsement of the use of benzodiazepines in emergency situations (Thompson, 1994).

Deficiencies are apparent when issues related to training and practice are considered. There is a lack of training of junior staff in rapid tranquillisation and audit is rarely carried out in specialities apart from forensic psychiatry, even though satisfaction with the management of behavioural disturbance is only moderately high. Written guidelines are rare and we would suggest that this is an area that deserves attention. As is well recognised, there is a deficiency in medium secure provision and only a minority of non-forensic psychiatrists had access to a psychiatric intensive care unit. Another area of concern is the quality of resuscitation available. Few psychiatric trainees have resuscitation training and when assessed their skills are found to be deficient (McNaughton *et al*, 1994). It is interesting that consultants and senior registrars tended to have different views on whether their units had adequate resuscitation. Senior registrars are usually more involved than consultants in emergency situations so arguably their view is more likely to be correct – it is therefore very worrying that only a minority of them were happy with resuscitation arrangements.

#### **Conclusion**

Most psychiatrists at senior registrar and consultant level use sensible drug regimes for rapid

tranquillisation although the use of zuclopenthixol acetate for antipsychotic-naïve patients is of concern. The *British National Formulary* could usefully include rapid tranquillisation as an indication for benzodiazepines. The development of rapid tranquillisation guidelines or protocols linked to audit may be one way of addressing the problems of insufficient training of junior doctors and the lack of audit in this area.

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