

# The use of medication in the management of violence and aggression

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## **Violence**

Incidence of non-fatal job related violence

12.6/1000 in all workers

16.2/1000 in physicians

21.9/1000 in nurses

68.2/1000 in mental health profs

69.0/1000 in custody workers

Friedman NEJM Nov 2006

## Violence contd

Most people who are violent are not mentally ill and most people who are mentally ill are not violent

Lifetime risk of schizophrenia in convicted murderers is 5%

Violence – defined as having used a weapon

People with SMI are 2-3 times more likely to be violent than those without MI

Lifetime prevalence of violence in people with SMI is 16% as against 7% in people without

**BUT** it is the patients symptoms not the diagnosis that lead to violence, so good treatment of symptoms and education about how to keep well leads to reduction in violence.

## **Mental Disorder and Homicide**

Rate of mental disorder in people convicted of homicide was 34%, 5% had schizophrenia

Only 25% killed a stranger

Of people with symptoms at time of offence 46% were psychotic, 62% were depressed.

Most of those with psychosis were known to services most of those with depression were not

Most of those with psychoses received a diminished responsibility verdict and a hospital order

Of 149 people receiving a diminished responsibility verdict 56% received a hospital order, 37% received a prison sentence

Shaw et al 2006 BJ Psych 2006 - part of National confidential inquiry into Suicide and Homicide by people with mental illness

## Comorbidity

Risk estimates of violence in individuals with substance misuse (but without psychosis) were similar to those in individuals with substance misuse and psychosis comorbidity, and higher than all studies with psychosis irrespective of comorbidity.

The risk for homicide was increased in individuals with psychosis, irrespective of comorbidity, compared with the general population.

Violence reduction strategies must focus on prevention of substance misuse.

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*Schizophrenia and Violence: Systematic Review and Meta-analysis. Fazel et al. PLoS Medicine 2  
10.1371/journal.pmed 2009*

## **Substance misuse in medium security**

38% of psychotic pts had alcohol probs v 50% non-psychotic  
Drug abuse was almost equal (51% psychotic 50% non)

PD showed significant association with substance misuse  
Racial variations in substance misuse white patients more likely to abuse alcohol and african-caribbean more likely to abuse drugs

79% reconvicted within 2yrs post discharge if abuse problem  
MSU patients 78% used drugs 6% general population

Scott et al J For Psych &  
Psychol Dec 2004

## Ethnicity

There are differences in the rate and types of violence between black and white patients. However there was no significant difference between the response to the incident.

The use of medication being predicted by the violence being directed towards a nurse, observed agitation, attempts to abscond and the patients section

The use of physical restraint being predicted by attempts to abscond, targetting a nurse or the patient being agitated.

The use of seclusion was predicted by the age of the patient, gender and section type

*Management of psychiatric in-patient violence: patient ethnicity and use of medication, restraint and seclusion  
Gudjonsson et al. B.J.Psych 2004*

## Pharmacotherapy

At present pharmacotherapy is the main type of intervention thought to mitigate psychosis, and by extension risk of violence.

Psychosis is not the biggest predictor of violence, but staying on medication reduces risk except in those people with a history of childhood antisocial conduct.

Pharmacotherapy alone cannot be expected to mitigate essentially non-clinical causes of violence, but must be used in conjunction with psychosocial interventions

*Swanson et al. Comparison of antipsychotic medication effects on reducing violence in people with schizophrenia. BJPsych 2008*



## Pharmacotherapy contd

Rapid Tranquillisation is used when control of agitation, aggression or excitement is required in order for psychosocial techniques to be used.

There is no consensus in the UK over first line drugs.

Good summary of the published data on use of medication

There is no good evidence base for RT and no gold standard, further UK specific research is urgently needed

*Pratt et al. Establishing gold standard approaches to rapid tranquilisation. Journal of Psychiatric Intensive Care 2008*

## **NICE Guideline on Violence 2005**

The use of medication to calm/lightly sedate the service user and reduce the risk to self and/or others.

The aim is to achieve an optimal reduction in agitation and aggression, thereby allowing a thorough psychiatric evaluation to take place.

In the UK deep sedation/sleep is not considered a desirable endpoint.

Medication is used when other less coercive techniques of calming, such as de-escalation or intensive nursing techniques, have failed

## **Medication used in rapid tranquillisation**

- Oral medication should always be offered
- Suitable drugs for rapid tranquillisation need to have a rapid onset of action.
- Frequent small doses may be safer and more effective than single large doses, taking account of half lives
- Antipsychotics have been traditionally used for RT, probably because violence is commonly associated with psychosis, however antipsychotic effects are not produced by single doses
- Benzodiazepines are also used commonly and have important advantages over antipsychotics in terms of side effects and toxicity.
- Combination of benzodiazepine and antipsychotic may reduce the amount of antipsychotic required

## Medication - contd

- Avoid benzodiazepines in patients with compromised respiratory function
- Avoid antipsychotics in those who have compromised cardiovascular function.
- If antipsychotics are considered necessary, consider atypicals in those who are antipsychotic naive or who have a history of extrapyramidal side effects.
- Always consider the previous and current medication
- Exceptionally it may be necessary to exceed the BNF dose – rationale for this must be recorded in the care plan, and all recommended physical monitoring carried out.

Drug	Route	Pharmacokinetics	Major side effects	Notes
<b>Short-acting antipsychotics</b>				
Aripiprazole	IM	Peak 1-3 hours t <sub>1/2</sub> 75 hours	Headache nausea	t <sub>1/2</sub> rises to 146 hours in poor metabolisers of CYP2D6
Chlorpromazine	Oral	Peak 2-4 hours t <sub>1/2</sub> 16-30 hours	Hypotension Arrhythmias Seizures Cardiac arrest	Should never be given parenterally because of the risk of severe hypotension and prolonged unconsciousness, as well as the reported association of high doses with sudden death.
Haloperidol	Oral	Peak 4 hours t <sub>1/2</sub> 21 hours	EPSE Hypotension NMS Increased QT <sub>c</sub> Arrhythmias Seizures	Note risk of acute dystonias and ensure that an appropriate antimuscarinic is to hand. Not recommended for I. V use because of the risk of Arrhythmias
	IM	Peak 20 minutes t <sub>1/2</sub> 21 hours		
Olanzapine	IM	Peak 15-45mins t <sub>1/2</sub> 30 hours	Hypotension Bradycardia	Less likely to cause EPSE than haloperidol <b>Benzodiazepines should not be given within 1 hour of IM olanzapine</b> The MHRA have warned against the use of Risperidone in the treatment of behavioural symptoms in dementia, due to increased risk of stroke
	Oral	Peak 6-8 hours		
Quetiapine I.R.	Oral	Peak 1.5-1.8 hours t <sub>1/2</sub> 6-7 hours	Hypotension	Limited clinical experience or trial data This drug was not considered by NICE in the violence guideline, but its short half-life justifies its inclusion in this list.
Risperidone	Oral	Peak 2 hours t <sub>1/2</sub> 18 hours	EPSE Hypotension	Limited clinical experience or trial data <b>The MHRA have warned against the use of Risperidone in the treatment of behavioural symptoms in dementia, due to increased risk of stroke</b>

Benzodiazepines				
Lorazepam	Oral	Peak 2 hours t½ 12 hours	Respiratory depression Disinhibition IV must be diluted with equal volume of WFI/saline	A wide therapeutic index & respiratory depression is readily reversed with the specific antagonist Flumazenil <b>I.M. lorazepam should not be given within 1 hour of I.M. Olanzapine</b> Disinhibition is more likely to occur in those with organic brain disease, including learning disabilities, and older people <b>Decision to use I.V. administration of benzodiazepines should not be made in isolation by junior medical staff</b>
	IM	Peak 60-90 mins t½ 12-16 hours		
Diazepam	Oral	Peak 60 minutes t½ 24-48 hours		
	I. V.	N/A		
Longer acting antipsychotics				
Zuclopenthixol acetate (acuphase)	IM	Onset 2-8 hours Peak 24-36 hours t½ 60 hours	EPSE Sudden death Cardiac arrest Arrhythmias	This is not an appropriate drug for use in RT due to long onset and duration of action. It may occasionally be used as part of a medium term strategy. It should <i>never</i> be used in those who are neuroleptic naive, who are struggling, who are sensitive to EPSE, or those with cardiac disease, hepatic or renal impairment or in pregnancy.
Antihistamines				
Promethazine	Oral	Peak 2-3 hours t½ 7-15 hours	Prolonged sedation Seizures Cardiorespiratory depression	Limited evidence for efficacy, but may be of use in patients who are Benzodiazepine tolerant, or who have breathing difficulties
	IM	Onset 1-2 hours t½ 7-15 hours		

## Suggested scheme for physical monitoring after administration of medication

<ul style="list-style-type: none"><li>•Alertness</li><li>•Temperature</li><li>•Pulse</li><li>•Blood pressure</li><li>•Respiratory rate</li></ul>	Every 5-10 minutes for 1 hour then every 30 minutes until patient is ambulatory then continue to monitor alertness, mental state and behaviour. Restart physical observations if there are any concerns.
<b>Fluid balance &amp; electrolyte balance</b> should be monitored as clinically indicated	
<b>ECG monitoring</b> is recommended antipsychotics have been given	
If a patient is unconscious <b>continuous pulse oximetry</b> is recommended	

## **Service users perspective**

Service users want to be listened to, spoken to, treated with respect and given oral medication of their choice.

They also rated distraction highly, such as art or music and access to staff they knew and spiritual counsellors.

They also preferred space to be able to walk about and access to food and drink.

Although over 50% wanted medication they complained of forced administration and unwanted side effects.

Benzodiazepines were the preferred option and haloperidol the least preferred option.

The increased use of advance directives was supported.

*What do consumers say they want and need during a  
Psychiatric Emergency*

*Allen et al. J Psych Prac 2003*