

A 20 Year Naturalistic Study of the Use of Droperidol for Acute Agitation in Forensic Psychiatric Inpatients

By

James F. Hooper, M.D., Denise Perone, M.D., Marisa Giggie, M.D., Patricia Pilkinton, M.D. , and Everett McDuffie, M.D.

Disclosures and acknowledgments

None of the authors have any financial interest in the drug in this study, nor or any of us employees in any way by any pharmaceutical companies. No grants were used in this study.

Abstract : 93 Words

At our facility, we have treated more than 3000 mentally ill male offenders over the last 18 years. We have used droperidol as the first line drug for acute agitation and have found it to be safe, effective, and very rapid in action. We have had no deaths, no Neuroleptic Malignant Syndrome, and very few, easily treated side effects. This is a drug that is used only by a subset of psychiatrists, primarily due to lack of training in its safety and effectiveness, but has little in the literature to document its use.

Introduction:

We operate a Secure Hospital dealing only with male patients and serving the entire State of Alabama, population 4.5 million. During the last two decades we have been able to establish a calm, quiet therapeutic milieu to the point that we were recognized with the "Gloria Huntly Award" by the National Alliance for the Mentally Ill in 2004 [1] for our outstanding reduction in the use of seclusions and restraints. While there are many factors in this reduction, including intensive staff training, a non-punitive hospital culture, and lots of hard work, the use of droperidol as a primary treatment for acutely agitated patients has also been a factor. [2]

Methods:

This article presents the results of data gathered after the fact, with no blinding, and with no research goal. In the regular collection of information for quality assurance, we noted that we had now given approximately 100,000 doses of droperidol with a remarkably low level of problems. Our patients all either gave informed consent for medication or were judged to lack the capacity to make that decision, or were acute emergencies. We have not ever set out to do a blinded controlled study. We have no exact data. We attempted to retroactively produce accurate data separating the various drugs used as PRNs. Since several drugs have been introduced during the time frame,

and no particular formal rating scheme was used, we found that verbal reports were our only real data. While this is limited, clearly the net effect of 21 years in the same setting with the same number of patients does give significant support for our conclusions.

Results:

Over a twenty one year time frame, this hospital has treated more than 3,000 adult males who were referred by the Courts as needing acute psychiatric treatment. In more than 99% of our cases, a serious crime is the direct cause of incarceration. When these men arrive at our hospital, it is not at all unusual for them to be very psychotic and aggressive. We have been using Droperidol as our main treatment for acute agitation all of this time, and have had no deaths, no Neuroleptic Malignant Syndrome, and few side-effects, all of which were easily treated. One of our authors has been using it since 1973, with good results. [3]

In the 2001 Expert Consensus series, what we saw in the data was a biphasic pattern with one small subset of psychiatrists who used droperidol and valued it and a majority who never used it. [4] We believe that many of the psychiatrists unfamiliar with this drug have not used it because there is no one trying to market it. We have used all the available IM drugs for agitated patients, (As of 1/1/09) and have found none to come close to droperidol. As noted in some studies, the response at 5 minutes is important; waiting for 30 minutes to evaluate an agitated patient leaves confusing data. [5]

The IM action of droperidol acts fast and clears fast. The sedating action allows rest and somnolence while a similar anti-psychotic like Haldol only effects mild sedation in a highly agitated individual: they can "fight" the effects and remain awake to experience akathisia and involuntary movements. By the time agitated patients awaken from droperidol, EPS is limited. We have never seen a patient who declared an allergy to droperidol in order to avoid being administered the drug again. We have also tried ziprasidone IM: it takes an hour or more for 10mg to effect any relief. Typically, a patient will end up needing another 10mg of ziprasidone within a half hour, placing staff at further risk of harm when administering the medication involuntarily. Olanzapine IM takes about 30 minutes to effect adequate relief from agitation (and once it is on board the product insert cautions against using any benzodiazepines).

ER physicians on the west coast have had unheralded success in utilizing droperidol to calm the psychotic agitation in methamphetamine psychosis. The prolonged Qtc compares favorably with Geodon.

Droperidol was first approved in the US in 1970; one year after Janssen Pharmaceuticals won a ten year court battle to get haloperidol to market as an anti-psychotic. [6] While it is clearly a good business decision to promote the first drug, and not the second, the decision to market droperidol as a pre-anesthetic and anti-emetic agent means that many US psychiatrists were never exposed to its use in treatment of psychosis. [7] The same issues arise in the emergency department and anesthesiology literature.

The common use of Haldol and a benzodiazepine exposes the patient to two drugs rather than one, acts more slowly, adds the possibility of interaction with other sedative/hypnotics, and has a greater risk of extrapyramidal symptoms than does use of droperidol alone.

Patient perspective

Mr. C, a 34 year old African –American man was admitted from the local jail in an acutely psychotic state, charged with attempted murder of a police officer. He refused to speak to any staff, or to allow any physical or laboratory examinations. An hour after admission he attacked another patient with no known provocation. An emergency order for Droperidol, 10 mg IM was given, and he was forcibly medicated. Ten minutes later he was calm and cooperative, stating that "I was hearing those devil voices again; they said he was trying to kill me. This is the first time they have stopped in a month." After another 10 minutes he was sound asleep, and woke up in 2 hours calm and cooperative with the admission workup. He was begun on p.o. antipsychotics, and had an uneventful course after that. While he did not like being forcibly given an injection, he did agree that it had "Calmed him down."

Conclusion

What we have observed is that two factors are important in using prn medications for agitation; the rapidity with which intervention occurs and the rapidity with which the intervention takes effect. An hour's delay in administering medication can allow violence to occur. Thirty minutes of waiting for pharmacological action after a forced medication is too much opportunity for violence in critical situations. Training is required to recognize and respond quickly to psychotic agitation. A very rapid drug is needed to match that training.

For many reasons, the patterns of use of medications in the United States are influenced by pharmaceutical marketing. While this is part of a capitalist economy, physicians must be aware of "orphan" drugs that have useful utility. We have used droperidol with great success, driven by our results and quality improvement data, and strongly believe that it is underutilized in psychiatric emergencies in this country.

There is no literature in the Forensic Psychiatric publications we reviewed on the safety & efficacy of Droperidol in a forensic hospital. We wanted to add to the knowledge base on its use.

[1] National Alliance for the Mentally Ill, 2004 Annual Meeting, Washington, DC

[2] Cure S, Rathbone J, Carpenter S. Droperidol for acute psychosis. Cochrane Database Syst Rev. 2004 Oct 18;(4):CD002830.

- [3] Hooper, J F, and Minter, G: Droperidol in the Management of Psychiatric Emergencies [letter] *The Journal of Clinical Psychopharmacology*, 4(3):262, Aug, 1983
- [4] Allen MH, Currier GW, Hughes DH, Reyes-Harde M, Docherty JP; Expert Consensus Panel for Behavioral Emergencies. The Expert Consensus Guideline Series. Treatment of behavioral emergencies
- [5] Glod CA. Major uses of psychopharmacology in the emergency department. *J Emerg Nurs*. 1994 Feb;20(1):33-7
- [6] Granger, B., MD and Albu, S., MD. The Haloperidol Story. *Annals of Clinical Psychiatry*, 17[3]:137–140, 2005
- [7] Hooper, J F: Droperidol and Acute Psychosis [letter] *The Journal of Clinical Psychopharmacology*, 7(3): 198, June, 1987

James F. Hooper, M.D., at the time this data was collected was the Director of Forensic Training, University of Alabama Birmingham School of Medicine. He is now retired. Dr. Perone is the Director of Acute Services, Taylor Hardin Secure Medical Facility, Tuscaloosa, Alabama; Dr. Giggie was at Taylor Hardin Secure Medical Facility, is now on the Faculty of the University of Alabama Tuscaloosa; Dr. Pilkinton remains at Taylor Hardin Secure Medical Facility as Acting Medical Director; Dr. McDuffie completed his Forensic Fellowship program at Taylor Hardin Secure Medical Facility, and now works for the VA in Johnson City, TN. Correspondence to Dr. Hooper at 1001 Mimososa Park Road, Tuscaloosa, AL 35405