

Management of psychomotor agitation: audit of clinical practice

Abstract

Background: Psychomotor agitation (PMA) is encountered in different psychiatric settings, with prevalence ranging between 4.3 and 10%. According to *The Maudsley Prescribing Guidelines in Psychiatry*, stepwise management of PMA starts with behavioral intervention, followed by parenteral rapid tranquillization and physical restraint as last resorts. Our primary aim is to determine whether we follow the stepwise management of PMA. Our secondary aims are to assess the type and frequency of different psychotropics used to manage PMA, and the rate antipsychotic combination.

Methods: We enlisted all patients who were prescribed psychotropics, ordered as “PRN for Agitation”, both in the emergency department and psychiatry inpatient units, between January the 7th and March the 4th of 2018, and retrospectively analyzed their electronic medical records for documentation of PMA and behavioral interventions implemented. In addition, we assessed the type and frequency of different psychotropics used for chemical restraint.

Results: 76 patients met our criteria. PMA was documented in 32.4 % of the cases, with five presenting with severe agitation. 21 instances of PMA occurred while patients were in the emergency department (ED), pending admission to psychiatry inpatient units. Behavioral intervention was only documented in 9.5% of the cases in the ED, compared to 48% in the inpatient units. The most frequently prescribed regimen for managing PMA was the combination of Intramuscular (IM) Haloperidol and Diphenhydramine, at a rate of 66%, followed by IM Haloperidol and Lorazepam (19.12%) and IM Haloperidol and Promethazine (8.82%). Compliance with the route of administration was only observed in 26% of cases, and the rate of neuroleptic co-administration was 68%.

Conclusion: In managing PMA, there is insufficient documentation of behavioral intervention. Compliance with psychotropic route of administration for chemical restraint was poor, as parenteral tranquilizers were the preferred agents, without initially resorting to oral psychotropics. In addition, most of our patients were prescribed more than one antipsychotic. Through a multidisciplinary approach, our goal is to improve compliance with the proposed guidelines in managing PMA, and minimize the rate of neuroleptic co-administration.

Keywords: multidisciplinary approach, antipsychotics, tranquilizer, hallucinations, neuroleptic combination, antipsychotic regimens, oral tranquilizers

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Abbreviations: PMA, psychomotor agitation; ED, emergency department; RT, rapid tranquillization; HIT, health information technology

Introduction

Psychomotor agitation (PMA) is encountered in different psychiatric settings, with about 1.7 million yearly visits to the Emergency Department (ED) in the United States entailing states of agitation.¹ The rate of PMA in patients with anxiety disorders is 20-30%, and 11-13% in patients with Schizophrenia and mood disorders.² Four signs were proposed during the First International Experts' Meeting on Agitation for the identification of PMA1: Inability to stay calm or still, motor and verbal hyperactivity and hyperresponsiveness, emotional tension, and difficulties in communication.³ Effective management of PMA helps alleviate patient suffering and ease the burden on caregivers.⁴

Different algorithms and protocols outline the stepwise management of PMA, with emphasis on initial behavioral intervention

followed by parenteral rapid tranquillization and physical restraint as last resorts.^{5,6} According to *The Maudsley Prescribing Guidelines in Psychiatry* (Maudsley), an initial approach of de-escalation, time-out and other psychological mediations are implemented in pacifying PMA. Persistent acute behavioral disturbance is managed with oral rapid tranquillization (RT). Oral antipsychotics are offered if the patient is not already taking other antipsychotic regimens, with pre-treatment ECG required prior to administering Haloperidol. Lorazepam can be used in patients taking antipsychotics, with the aim of avoiding neuroleptic co-administration. Patients who are not stable after oral RT or refuse treatment are then prescribed parenteral tranquilizers. It is recommended that PMA is managed directly with parenteral RT if behavioral disturbance is severe, placing the patient or others at significant risk.⁷

Our primary aim is to determine whether a similar approach is adopted in managing PMA in the ED and psychiatry inpatient units at Hamad Medical Corporation, using recommended interventions by Maudsley as our reference. Our secondary aims are to assess the type

and frequency of different psychotropics used to manage PMA, and the rate of antipsychotic co-administration.

Methods

The project was proposed to and accepted by the Audit Committee at the Psychiatry Department at HMC. Subject consent was not required as we collected data solely through chart review. We enlisted all the patients admitted in the Emergency Department (ED) and acute inpatient units in the psychiatry department who were prescribed parenteral tranquilizers, ordered as “PRN for Agitation” between January the 7th and March the 4th of 2018. We then retrospectively reviewed patients’ electronic medical records for documentation of PMA and its severity, and behavioral interventions implemented in pacifying PMA. For chemical restraints, the route of administration and rate of neuroleptic combination was assessed. Descriptive statistical analysis was performed including frequencies and percentages for all categorical variables. No demographical information was collected as our main objective was to assess the trends of managing PMA in acute settings.

Results

A total of 76 cases fit our search criteria. Two cases received injections for extrapyramidal symptoms, two for sleeplessness, and one for “persistent commanding hallucinations “. These 5 cases were not included, although psychotropics were ordered as “PRN for Agitation”. Hence the total number of patients included was 71, out of which 21 were in the ED and 50 in psychiatry inpatient units. PMA was documented in twenty-three cases (32.4 %), with five presenting with severe agitation. Most documentation relayed states of irritability or anxiety requiring tranquilizer administration. A similar trend was observed for behavioral interventions, with documentation provided for 9.5% (2 out of 21) cases in ED compared to 42.0 % for admitted patients (21 out of 50). The most frequently prescribed regimen for the management of PMA was the combination of Intramuscular (IM) Haloperidol and Diphenhydramine (66.0%), followed by IM Haloperidol and Lorazepam (19.12%) and IM Haloperidol and Promethazine (8.82%). Only 2 cases were offered initial oral tranquilization before resorting to parenteral chemical restraint. Neuroleptic co-administration was observed in 68.0% of cases.

Discussion and recommendations

We used parenteral “PRN for Agitation” orders as a proxy to retrospectively assess cases of PMA. Our objective was to determine whether behavioral intervention and oral tranquilizers were offered before resorting to parenteral agents. This method has limitations as it neglects instances where medication was not needed, or cases where oral agents were prescribed without the use of parenteral psychotropics. When PMA is severe and the patient poses risk of harm to self or others, parenteral agents should be administered without resorting to oral medication. Unfortunately, the lack of documentation of PMA severity makes it difficult to assess whether stepwise management was followed. A prospective cohort study will allow for a better evaluation of PMA management.

In managing PMA, behavioral intervention was poorly documented, especially in the emergency setting. When chemical restraint was needed, compliance with the route of administration was poor, as intramuscular combination of Haloperidol and Diphenhydramine was the most common agent used, without initially resorting to oral tranquilizers. In most cases, there was no

justification for administering parenteral agents without offering oral psychotropics (i.e. no documentation of severe PMA that requires immediate parenteral chemical restraint). In addition, most patients who received antipsychotics for PMA were already on a regular antipsychotic, leading to a high rate of neuroleptic combination.

Our practice of managing PMA differs substantially when compared to other institutions. A quality improvement project by the Prescribing Observatory for Mental Health in the UK (POMH-UK) on the management of PMA found benzodiazepines the most commonly used oral agent, and the combination of parenteral Haloperidol and Lorazepam the most frequent parenteral regimen.⁸ In contrast to a 68.0% neuroleptic co-administration rate at HMC, a systematic analysis across different regions from 1970-2009 showed that the median rate of Antipsychotic Polypharmacy (APP) was 19.6% (Interquartile ranges=12.9-35.0%), with higher rates in Asia and Europe compared to Northern America.⁹

In order to follow the recommended guidelines by Maudsley, we must work on improving our documentation regarding the presence or absence of psychomotor agitation and its severity. Documentation of behavioral intervention should also be improved, as the rate was less than half in inpatient units. We are currently working with our Health Information Technology (HIT) supplier to introduce a panel of orders, named “PMA”, which include oral and parenteral tranquilizers, with a clear communication order that if verbal de-escalation fails in pacifying PMA, oral agents should initially be offered and parenteral RT used only if the patient is non-responsive to oral medication, refuses oral regimens or is severely agitated. We are also planning to raise awareness of the status quo by presenting our findings to the nursing staff, clinical pharmacists and psychiatrists. We will re-examine our practice of managing PMA six months after our recommendations been implemented.

Conclusion

The management of Psychomotor Agitation in the inpatient psychiatry units at Hamad Medical Corporation is suboptimal. Through a multidisciplinary approach, our goal is to follow the guidelines proposed by Maudsley in managing PMA and reduce the rate of antipsychotic combination.

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Conflicts of interest

The authors declare that there are no conflicts of interest.

References

- Allen M, Currier G. Use of restraints and pharmacotherapy in academic psychiatric emergency services. *Gen Hosp Psychiatry*. 2004;26(1):42–49.
- Swanson JW, Holzer CE, Ganju VK, et al. Violence and psychiatric disorder in the community: evidence from the Epidemiologic Catchment Area surveys. *Hosp Community Psychiatry*. 1990;41(7):761–770.
- Martínez-Raga, J, Amore, M, Di Sciascio, G, et al. 1st International Experts’ Meeting on Agitation: Conclusions Regarding the Current and Ideal Management Paradigm of Agitation. *Front Psychiatry*. 2018;9:54.

4. Sachs GS. A review of agitation in mental illness: burden of illness and underlying pathology. *J Clin Psychiatry*. 2006;67 Suppl 10:5–12.
5. Garriga M, Pacchiarotti I, Kasper S, et al. Assessment and management of agitation in psychiatry: Expert consensus. *World J Biol Psychiatry*. 2016;17(2):86–128.
6. Vieta E, Garriga M, Cardete L, et al. Protocol for the management of psychiatric patients with psychomotor agitation. *BMC Psychiatry*. 2017;17(1).
7. Taylor D, Barnes T, Young A. The Maudsley Prescribing Guidelines in Psychiatry. 13th ed. England: West Sussex; 2018. pp. 54–66.
8. Paton C, Adams C, Dye S, et al. The pharmacological management of acute behavioural disturbance: Data from a clinical audit conducted in UK mental health services. *J Psychopharmacol*. 2018;33(4):472–481.
9. Gallego J, Bonetti J, Zhang J, et al. Prevalence and correlates of antipsychotic polypharmacy: A systematic review and meta-regression of global and regional trends from the 1970s to 2009. *Schizophr Res*. 2012;138(1):18–28.