The Incidence of Dysesthesia when Droperidol is used for Prophylaxis of Postoperative Nausea and Vomiting

Kareem Kassel MSIV, UA-COM

ABSTRACT

Background: Droperidol has been associated with a relatively high incidence of dysesthesies (30% to 70%) in the outpatient setting, but we have not observed dysesthesies in most patients who receive it perioperatively.

Hypothesis: The incidence of dysesthesies in the perioperative period is less than that reported in the outpatient environment.

Purpose: To study the incidence of dysesthesies in patients treated with droperidol perioperatively for PONV, and to determine efficacy of droperidol for preventing PONV and relieving anxiety.

Methods: 30 Patients who were at moderate to severe risk of developing PONV and met no exclusion criteria were asked to complete a survey prior to IV administration of 0.625 mg of droperidol. The survey was repeated 1 hour after admission to the PACU.

Results: None of the patients reported dysesthesia 0% (P<0.001). Patients reported an average 2.2 point reduction on their 1-10 anxiety level after surgery. None of the patients complained of PONV.

Conclusion: Dysesthesia from droperidol is much less common in the perioperative setting than has been reported in the outpatient setting. Based on these results low dose droperidol is expected to prove less likely to cause dysesthesias when used in the intraoperative setting for prophylaxis of PONV than reported in emergency departments and oncology clinics.

INTRODUCTION

Postoperative Nausea and Vomiting (PONV) is a major sequela of anesthesia and surgery and, with an incidence of ~30%, is 1 of the major morbidities experienced by patients in the perioperative period [1]. Patients recovering from anesthesia are at increased risk for aspiration of gastric contents into the trachea and bronchi. PONV is treated with a multistep regimen that includes the prophylactic administration of drugs such as dexamethasone, scopolamine, or droperidol, as well as other rescue medications.

Droperidol is a butyrophenone with potent antiemetic properties and anti-dopaminergic activity as a D_2 receptor antagonist [2]. Approved in 1970, droperidol has been widely used in the treatment of PONV in doses of 0.625 or 1.25 mg administered via IM or IV routes. Droperidol is hailed for its clinical effectiveness, short half-life, and quick onset of action. In addition to its antiemetic properties, many anesthesiologists argue it a safe and potent medication for agitation.

In, 2001 the US FDA issued a Black-box warning for the proarrhythmic effects of droperidol noting QT prolongation leading to Torsades de Pointes in some patients [3].

METHODS

Inclusion Criteria:
Adult men and women ≥ age 18 who were at moderate to high risk of having PONV.

Exclusion Criteria:
Lack of consent
Allergy to droperidol
An ECG was not required to participate in the study, but, if the patient had an ECG within the last 12 months demonstrating a QTc > 470 msec.
A diagnosis of Parkinson disease, Restless Leg Syndrome, or other movement disorder in which the use of an antidopaminergic drugs was contraindicated.

Sample Size:
To demonstrate a 20% absolute reduction in the incidence of dysesthesia (from 30% to 10%) in patients receiving 0.625 mg of droperidol, the calculated sample size to obtain at least 80% power was n = 24 as shown in table 1 below.

RESULTS

The incidence of dysesthesias in the 15 subjects was 0% (p < 0.001).

There was an average post-op anxiety level of 4.6 on a 1-10 scale for all subjects with answers ranging from 1 to 10, SD = 3.0, interquartile range 2 – 6 and median 4.5. The average post-op anxiety level was 2.4 on a 1-10 scale with answers ranging from 1 to 7, SD = 1.95, interquartile range of 1 – 4 and median of 2 (figure 1, table 5). None of the patients in the study complained of nausea or vomiting while in the PACU.

Only 4 patients had reported past history of dysesthesia but not occurring at the time of the pre-operative survey (figure 2).

The average age for the enrolled subjects was 50.5 years with standard deviation (SD) = 16.2. The median age was 55 with an interquartile range (IQR) spanning from 37 – 61 years.

DISCUSSION

Dysesthesias in this setting may be uncommon because droperidol is used at a lower dose than in emergency departments. 2.5 mg droperidol is commonly administered in the ED whereas the dosage recommended for PONV prophylaxis in the perioperative environment is 0.625 mg. Additional drugs administered in the perioperative setting including opiates or sedatives e.g. benzodiazepines may attenuate the incidence of dysesthesia.

All patients surveyed with a preoperative anxiety level greater than 1 had reported a reduction of anxiety postoperatively. However, this reduction cannot be exclusively attributed to droperidol because of the coadministration of several other psychotropic drugs. Furthermore, patients may be more likely to feel anxious while in the preoperative holding area than the recovery unit knowing that their surgery is successfully completed.

Four patients, 13%, reported a past history of spontaneous and intermittent dysesthesias and akathisia raising concern for undiagnosed RLS. All 4 patients denied experiencing these symptoms, whether familiar or novel sensations, postoperatively.

All of the subjects in the study to date have been female. This is primarily because patients enrolled in the study were required to have moderate to high risk for PONV. Among the risk factors for PONV are non-smokers, females, and breast, GI, or gynecological procedures.

CONCLUSION

Dysesthesia from droperidol is much less common in the perioperative setting than has been reported in the outpatient setting. Based on the results low dose droperidol is expected to prove less likely to cause dysesthesias when used in the intraoperative setting for prophylaxis of PONV than reported in emergency departments and oncology clinics.

REFERENCES

