Prophylaxis of Diphenhydramine on Postoperative Catheter Related Bladder Discomfort in Patients Undergoing Gynecologic Laparoscopic Surgery: A Randomized Double-Blind Clinical Study

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Study Objective

To evaluated the effectiveness of diphenhydramine, an antihistamine with anti-muscarinic properties, for prevention of postoperative catheter related bladder discomfort (CRBD).

Design

Randomized, double-blind control study.

Setting

Postoperative recovery rooms and gynecological wards of a medical center.

Pateints

96 ASA physical status I and II adult female patients (20–60 yr) scheduled for elective gynecologic laparoscopic surgery.

Intervention

Patients were randomized into two groups of 48 patients each. The control (C) group received placebo (normal saline 2 ml) whereas the diphenhydramine (D) group received diphenhydramine 30 mg intravenously after induction of general anesthesia. Then, all patients were catheterized with a 14 Fr Foley catheter and the balloon was inflated with 10 ml of normal saline.

Measurements

Bladder discomfort and its severity were assessed at 1, 2 and 6 h postoperatively. The severity of CRBD was graded as none, mild, moderate and severe. Adverse effects of diphenhydramine such as sedation, dry mouth or gastrointestinal upset were recorded.

Main Results

The incidence of CRBD was lower in the D group compared with the C group at 2 and 6 h postoperatively ($P<0.05$). Diphenhydramine treatment also reduced the severity of CRBD at 6 h postoperatively ($P<0.05$). There were no significant differences in side effects, such as sedation, dry mouth or gastrointestinal upset between the two groups ($P>0.05$).

Conclusion

Prophylactic administration of diphenhydramine 30 mg after induction of general anesthesia reduced the incidence and severity of postoperative bladder discomfort without significant side effects in patients receiving gynecologic laparoscopic surgery.

Table 1. Demographic data, duration of surgery, and analgesic requirement.

	Control (N=46)	Diphenhydramine (N=46)
Age (yr)	41.02 ± 7.7	38.93 ± 8.9
Height (cm)	158.59 ± 5.3	158.39 ± 4.9
Weight (kg)	56.86 ± 8.6	57.61 ± 9.9
Duration of surgery (min)	89.67 ± 34.0	92.17 ± 33.7
Post-operative meperidine requirement (mg)	21.09 ± 23.4	27.5 ± 24.7
Post-operative ketorolac requirement (mg)	27.93 ± 16.0	24.35 ±18.3

Data are presented as mean ± standard deviation (SD).
No difference between groups.

Table 2. Incidence and severity of bladder discomfort, data presented as number of patients and (percentage).

Time (h)	1		2		6	
Groups	C	D	C	D	C	D
No discomfort, n (%)	22 (47.8)	27 (58.7)	19 (41.3)	30 (65.2)	20 (43.5)	35 (76.1)
Discomfort, n (%)	24 (52.2)	19 (41.3)	27 (58.7)	16 (34.8)*	26 (56.5)	11 (23.9)*
Severity of bladder discomfort						
Mild	17 (36.9)	13 (28.26)	23 (50.0)	12 (26.09)	24 (52.17)	10 (21.74)*
Moderate	6 (13.04)	6 (13.04)	3 (6.52)	3 (6.52)	1(2.17)	1 (2.17)
Severe	1 (2.17)	0 (0)	1 (2.17)	1 (2.17)	1(2.17)	0 (0)

* $P<0.05$ in the intergroup comparison. C: control; D: Diphenhydramine