44160 - INTRAOPERATIVE ESMOLOL INFUSION SPARES POSTOPERATIVE FENTANYL FOLLOWING LAPAROSCOPIC CHOLECYSTECTOMY

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INTRODUCTION: The use of opioids during ambulatory surgery can delay hospital discharge or cause unexpected hospital admission. Preliminary studies using intraoperative continuous infusion of esmolol in place of an opioid have inconsistently reported postoperative opioid-sparing effect. The purpose of this study is to compare esmolol versus either intermittent fentanyl or continuous remifentanyl on postoperative opioid-sparing, side effects and time of discharge.

METHODS: Local IRB approval was obtained for this study. Ninety patients were enrolled in this prospective randomized and observer blinded study and divided in 3 groups. The Control group (n=30) received intermittent doses of fentanyl, the Esmolol group (n=30) received a continuous infusion of esmolol (5-15 mcg/kg/min) and no supplemental opioids during surgery, and the Remifentanyl group (n=30) received a continuous infusion of remifentanyl (0.1-0.5 mcg/kg/min). General anesthesia was standardized and adjuvant medications included acetaminophen, ketorolac, local anesthetics in the skin incisions, dexamethasone and droperidol. Postoperative analgesia included fentanyl and ondansetron.

RESULTS: The amount of fentanyl in the recovery room was significantly less in the Esmolol group, 91.5 ± 42.7 mcg, compared with the other two groups, remifentanyl, 237.8 ± 54.7 mcg, control, 168.1 ± 96.8 mcg ($p < 0.0001$). The incidence of nausea was greater in the Control (66.7%) and Remifentanyl (67.9%) groups compared with the Esmolol group (30%) ($p < 0.01$). The latter group reached the White-Song score of 12 and above within 16 ± 27.7 minutes of arrival to the recovery room ($p < 0.01$), and left the hospital to go home on average 46 min earlier ($p < 0.03$).

Variable	Control n = 27	Esmolol n = 30	Remifentanil n = 28	P (3 groups)
Amount of fentanyl used (µg)	168.1 ± 96.8	91.5 ± 42.7	237.8 ± 54.7	0.0001
Amount of ondansetron used (mg)	4.6 ± 3.6	1.1 ± 2.1	4.4 ± 3.3	0.0003
Time from arrival to R.R. to home discharge home (min)	192.1 ± 92.6	130.2 ± 39.9	166.6 ± 67.3	0.0033

DISCUSSION: Esmolol infusion contributes to a significant decrease in post-operative administration of fentanyl and ondansetron and facilitates earlier discharge.