Anesthetic and Pharmaco-economic Outcomes in Prostate Brachytherapy

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INTRODUCTION: This randomized controlled trial was conducted to compare outcome and cost-effectiveness of general anesthetic (GA) versus low dose lidocaine saddle block (SB), in patients undergoing ambulatory transperineal prostate I¹²⁵ seed implantation.

METHODS: After IRB approval, 119 consented patients were randomized to receive either a standardized GA or low dose SB. The GA group received intravenous fentanyl 0.5-1 μgkg^{-1} , propofol 1-4 mgkg^{-1} , and maintenance with sevoflurane and nitrous oxide in oxygen. SB patients received intravenous midazolam 1-3mg and an intrathecal injection of 2% lidocaine 1 mL, 10% dextrose 1 mL and fentanyl 10 μg , total volume 2.2mL.¹ After 5 minutes of sitting, patients were placed in 15° reverse Trendelenberg lithotomy position. Intraoperative hypotension, postoperative VAS, and time to ambulation and discharge were recorded. Patients were contacted three days post-discharge to assess satisfaction, analgesic use and side effects including Transient Neurologic Symptoms (TNS). All costs including Direct and Natural units² were calculated in Canadian Dollars. Treatment differences between binary outcomes such as side effects were calculated using two-sided χ^2 test. Differences in time between groups were calculated using a t-test.

RESULTS: Each group consisted of 59 patients (one withdrawal due to GERD). In the PACU, SB patients had consistently lower VAS scores than GA patients and were faster to ambulate and discharge. Intraoperative hypotension and use of postoperative analgesics was exclusive to the GA group (24 and 16 patients, respectively). No TNS was reported. All patients were extremely satisfied with their anesthetic experience. The cost for the GA group was $\$87.45 \pm \24.77 , with the SB group significantly lower at $\$79.97 \pm \14.26 ($p \leq 0.05$).

	Time to Ambulation (min)*	Time to Discharge (min)*	Cost per patient (\$CDN)*
SB	105.53 $\pm$ 26.38	108.67 $\pm$ 23.25	79.97 $\pm$ 14.26
GA	121.71 $\pm$ 43.73	124 $\pm$ 37.28	87.45 $\pm$ 24.77

Values expressed as mean $\pm$ standard deviation; * $p \leq 0.05$

DISCUSSION: Low dose SB provides superior anesthesia and analgesia with minimal side effects, shorter length of hospital stay and increased cost effectiveness.

REFERENCES: 1. IARS Congress, Hawaii, 2000; 2. Anesthesia 1998;53:782-88.