



Effect of Perioperative Lidocaine on Bladder Cancer Recurrence

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Introduction

- Current evidence shows that perioperative lidocaine may decrease recurrence in certain cancer types such as breast by up to 2 years
- No current large RCTs on recurrence after radical cystectomy with and without IV lidocaine
- Current small studies suggest improvement in disease free survival for radical cystectomy
- Investigate generalizability of previous IV lidocaine findings to radical cystectomy for primary bladder malignancy

Methods:

- **Retrospective chart review** of 8 years of patients undergoing radical cystectomy at large regional center
- 67 patients who received IV lidocaine vs 18 who did not
- Primary endpoint of **5-year disease free survival**
- Statistical analysis between group with and group without continuous IV lidocaine infusion

Results

- 44 of 67 in lidocaine group disease free at 5 years
 - 23 of 67 had recurrence with mean of 16.91 months
- 13 of 18 in no lidocaine group disease free at 5 years
 - 5 of 18 with recurrence with mean of 13.61 months
- No significant differences in demographic data between groups
- Significantly longer duration of surgery in patients with IV lidocaine
- **NO significant difference in disease free survival**

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	Lidocaine?	N	Mean	Standard Deviation	P-value by t-test
Months to tumor recurrence	No	5	13.6	13.4	0.291
	Yes	23	16.9	11.8	

Lidocaine?	N	Mean Age	Mean BMI	Mean Length of Stay	% Male
No	18	67.1	29.4	7.3	77.8%
Yes	67	64.8	28.4	5.8	76.1

Discussion:

- IV local anesthetics may decrease incidence of some types of cancer after resection
- Proposed mechanism is decrease in pro-inflammatory aspects of surgery decreasing spread of cancer during surgery
- **Our retrospective study found no difference in DFS for radical cystectomy between IV lidocaine intraoperatively and no IV lidocaine**
- Cancer is genetically and biochemically heterogeneous so unsurprising that IV local anesthetics are likewise heterogeneous in efficacy depending on tumor type and location
- Further larger prospective studies needed to see if a subset of bladder tumors react favorably to IV lidocaine

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