

Effect of Postoperative Delirium on Outcomes After Cardiac Surgery

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BACKGROUND

- Postoperative delirium is a common condition that leads to poor outcomes after surgery.
- Studies have been conducted on the effect of postoperative delirium on outcomes after non cardiac surgery but there are very few studies examining its effect on outcomes after cardiac surgery.
- It is very important to study postoperative delirium after cardiac surgery because of its impact on the postoperative course of patients.



PURPOSE

- This study was conducted to determine the effect of postoperative delirium on outcomes after cardiac surgery.
- Specifically, it also sought to determine the relationship of certain risk factors and the occurrence of postoperative delirium after cardiac surgery



RESEARCH QUESTION

- Is there a relationship between the development of postoperative delirium after cardiac surgery and the following outcomes:
 - a. occurrence of falls?
 - b. length of stay after surgery?
 - c. discharge to a skilled nursing facility/ rehabilitation center/ long term acute care?
 - d. discharge to home with home health?
 - e. utilization of inpatient physical therapy?



METHODS

- **Research Design:** Descriptive correlational design
- **Sample:** 656 patients who had cardiac surgery from January 10, 2011 to October 30, 2011 at Mission Hospital.
- Patients had the following procedures performed with the cardiopulmonary bypass machine: CABG, valve repair/ replacement, and CABG with valve repair/replacement.



METHODS

- The sample consisted of 436 males and 220 females between the ages of 29 and 91. 161 patients (24.54%) developed postoperative delirium.
- Charts were reviewed retrospectively and data were analyzed using t- test and Fisher's exact test.



RESULTS

- The following demographic variables were found to be related to postoperative delirium after cardiac surgery:
 - a. Age
 - b. Cardiopulmonary bypass time
 - c. Number of pre existing medical conditions
 - d. Past medical history of: arrhythmias, CHF, and renal disease
 - e. Type of surgery: CABG and CABG with valve surgery
 - f. Medications given after surgery: PO Benzodiazepines, IV Toradol, Ambien



RESULTS

Variables	Postoperative Delirium		No Postoperative Delirium		p value
	Mean	SD	Mean	SD	
Age	71.4	9.0	64.9	10.8	.000
No. of Comorbidities	3.51	1.74	3.02	1.59	.002
CP Bypass Time	117.3	52.5	106.5	45.7	.019



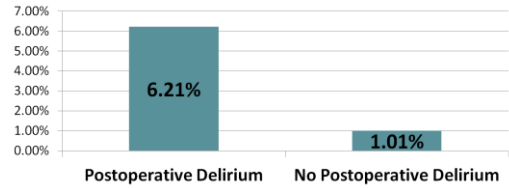
RESULTS

Variables	Postoperative Delirium	No Postoperative Delirium	p value
	%	%	
Hx of Arrhythmias	28.57	17.58	.003
Hx of CHF	14.91	8.89	.037
Hx of Renal Disease	19.25	11.11	.010
PO Benzodiazepine	42.24	33.13	.010
IV Ketorolac	50.31	41.62	.017
Ambien	6.21	5.25	.026



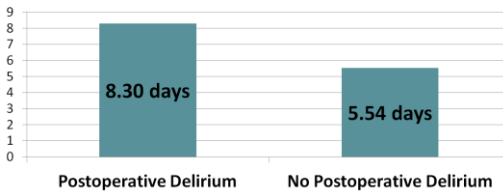
RESULTS

There is a Relationship Between Postoperative Delirium After Cardiac Surgery and Occurrence of Falls (p= .001)



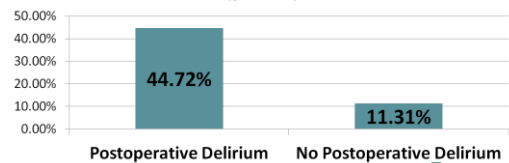
RESULTS

There is a Relationship Between Postoperative Delirium After Cardiac Surgery and Length of Stay (p=.000)



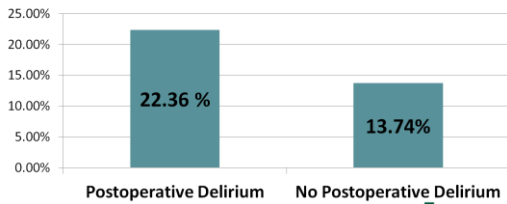
RESULTS

There is a Relationship Between Postoperative Delirium After Cardiac Surgery and Discharge to a Nursing Facility (p=.000)



RESULTS

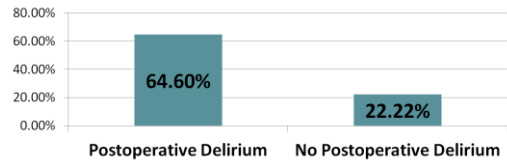
There is a Relationship Between Postoperative Delirium After Cardiac Surgery and Discharge to Home with Home Health ($p=.013$)



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RESULTS

There is a Relationship Between Postoperative Delirium After Cardiac Surgery and Utilization of Physical Therapy ($p= .000$)



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CONCLUSIONS

- Patients who develop postoperative delirium are more likely to experience poorer outcomes.
- They are more likely to fall, be discharged to a nursing facility, be discharged to home with home health, and require inpatient physical therapy. They are also most likely to have a longer postoperative hospital stay.

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NURSING IMPLICATIONS

- There is a need for the development of an extensive care plan that involves prevention and treatment of postoperative delirium after cardiac surgery.
- This will help improve the postoperative course and outcomes of cardiac surgery patients.

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