

INTRODUCTION

Cocaine use continues to be a concern for hospitals and patient outcomes.¹ Previous retrospective studies have shown that cocaine positive surgical patients do NOT have an increase in adverse hemodynamic events, length of stay, or mortality compared to cocaine negative controls.² This study aims to prospectively determine the correlation between recent cocaine use and intraoperative hemodynamics, inflammatory and cardiac biomarkers, and demographic information.

METHODS

A total of 99 patients were enrolled at a large, tertiary, public county hospital and were split into cocaine positive and negative cohorts. Cocaine positive (n = 59) patients were defined as patients who had a positive urine toxicology prior to surgery. Cocaine negative (n = 40) patients were those who had used cocaine in the past year but had a negative urine toxicology prior to surgery. The anesthesia protocol was standardized for all patients.

RESULTS

When compared to cocaine negative patients, cocaine positive patients were more likely to be African American and had a longer length of stay (1.28 vs. 2.35 days). Significant medical comorbidity rates were not significantly different between the two cohorts. Intraoperative ranges of abnormal heart rate and mean arterial pressure (MAP) did not significantly differ between the cohorts. Similarly, perioperative changes in cardiac troponin T were not significantly elevated in each group.

Table 1. Demographic Information

	Cocaine Negative (N = 40)	Cocaine Positive (N = 59)	P-value
Age	48	48	0.99
Male	60%	60%	0.66
African American	48%	68%	0.02
ASA I-II	52.5%	42.4%	0.32
ASA III-V	47.5%	57.6%	-
Mortality	2.5%	1.7%	1.00
Length of Stay (median days)	1.28	2.35	0.05

Table 2. Past Medical History

	Cocaine Negative (N = 40)	Cocaine Positive (N = 59)	P-value
Hypertension	48%	31%	0.10
Hyperlipidemia	18%	10%	0.31
Diabetes	13%	11%	0.75
CV Disease	13%	14%	0.84
Pulm Disease	15%	19%	0.59
Liver Disease	18%	17%	0.99
Renal Disease	18%	15%	0.35
HIV/AIDS	8%	5%	0.69

Table 3. Primary Hemodynamic Median (IQR) Outcomes

Hemodynamic Events	Cocaine Negative (N = 40)	Cocaine Positive (N = 59)
MAP <55 or >110 mmHg	1.8 (0.5, 4.3)	1.4 (0.8, 4.2)
HR <50 or >100 BPM	3.2 (0.4, 7.9)	2.7 (0.3, 8.2)

* As a percentage of total anesthesia duration

Table 4. Troponin T Outcomes

Perioperative Change	Cocaine Negative (N = 40)	Cocaine Positive (N = 59)
No Change	95%	100%
Decrease	2.5%	0%
Increase	2.5%	0%

CONCLUSION

The data supports the idea that positive cocaine urine toxicology tests in non-toxic individuals are not associated with increased cardiovascular instability or troponin elevation in patients undergoing general anesthesia. Thus, automatic cancellation of these patients may not be warranted. Further analysis of the full study cohort (N = 300) is currently underway.

REFERENCES

1. Brookoff D, Campbell EA, Shaw LM: The underreporting of cocaine-related trauma: drug abuse warning network reports vs hospital toxicology tests. Am J Public Health 1993, 83(3):369-371.
2. Hill GE, Ogunnaike BO, Johnson ER: General anaesthesia for the cocaine abusing patient. Is it safe? Br J Anaesth 2006, 97(5):654-657.