

Laparoscopic adrenalectomy for Conn's syndrome: a review of the current protocol

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Introduction

Current protocol for patients at PAH receiving laparoscopic adrenalectomy for

Conn's syndrome:

- Admitted for **2 days pre-operatively** and **5 days post-operatively**
- Protocol is for **medical management** of **blood pressure, fluid balance and serum potassium**
- Patients are managed collaboratively between the Hypertension and Upper-GI units
- Surgically, a shorter admission is required, ^{1,2} allowing increased bed availability, with associated cost savings (~\$700/bed/day)

AIM – To audit inpatient perioperative management of patients having unilateral laparoscopic adrenalectomy for primary hyperaldosteronism.

Methods

Study type – retrospective observational study

Cohort – patients who have had a laparoscopic adrenalectomy for biochemically proven Conn's syndrome

Period – between 1st January 2016 and 30th June 2021

Data collection – review of electronic medical charts.

Analysis – simple descriptive analyses using Microsoft Excel

Results

Demographics:

- n=68** (46% male, 54% female)
- BMI** – <25 (19%); 25-30 (32%); 31-35 (30%); >35 (19%)
- No. of years with HTN before adrenalectomy:**
 - <5 yr (43%); 5-10 yr (19%); >10 yr (38%)
- No. of pre-operative anti-hypertensives:**
 - 1 (13%); 2 (27%); 3 (25%); 4 (35%)
- Localisation** – 41% right, 59% left, 0% bilateral

Outcomes:

- Length of stay (days)** – 5 (13%); 6 (29%); 7 (42%); >7 (17%)
- Pre-op stay** – 1 (13%); 2 (82%); 3 (3%)
- Post-op stay** – 3 (6%); 4 (37%); 5 (43%); >5 (13%)
- Complication rate:** 4 (6%); aortic injury, bowel injury, small bowel obstruction, ileus
- Conversion to open surgery:** 2 (3%)
- Unexpected ICU admission:** 2 (3%) intraoperative blood loss [aortic injury mentioned above], intraoperative hypotension requiring vasopressors)
- Readmission (in 30-days):** 1 (small bowel obstruction)
- 90-day mortality:** 0%

Conclusion

- There is a positive collaboration between the Hypertension and Upper-GI Surgery Units.
- Assessment of the timing of interventions pre and post-operatively support a review of the present protocol.
- There may be a potential to reduce the length of stay safely.
- FUTURE** – identify factors that require prolonged post-op inpatient stay

PRE-OP

HTN management Medication changes: (n=7, 10%)		K+ supplementation (n=5, 7%)	
n	Action	n	Route
5	increase/decrease single agent	2	IV
7	Stat dose hydralazine SBP > 180mmHg	2	Oral
		1	IV + Oral

POST-OP

HTN management Medication changes: n=38, 56%			K+ supplementation (n=3, 4%)	
*	Decrease (71%)	Increase (29%)	Day	Route
D0	12	0	0	Oral
D1	5	1	2	Oral
D2	6	7	2	IV
D3	2	3		

Fluids (protocolised)
ALL received 0.9% NaCl @ maintenance rates (~83mL/hr)
Duration – 1 day (31%), 2 days (60%)

'Urgency': SBP>180mmHg (n=15) (D1-2)
RRT for hypotension (n=1) (D1)

Discussion

Operative outcomes – complication & mortality rates compare with internationally reported standards.³

Pre-operative – protocolised admission of 2 days

- Low intervention rate (n=12, 18%)** – minor K+ replacement and minor changes to antihypertensives

Post-operative – protocolised admission of 5 days (post-op day denoted by *)

- Hypertensive interventions (n=15, 22%)** – occurred between D1-2. Managed with increased antihypertensives
- Hypotensive episode (n=1, 1%)** – occurred on D1. Managed with fluids.
- Antihypertensive medication** – changes to NUMBER OF AGENTS and DOSAGE in 56% of patients, 95% resolved by post-op D3.

Limitations – Since all patients undergo protocolised peri-operative admissions, we did not have patients with shorter admissions to compare outcomes with

Abbreviations:

- PAH – Princess Alexandra Hospital
- HTN – hypertension
- BP – blood pressure
- * D# – denotes post-operative day

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