



Assessment of Post Surgery Heparin Dosing Practices in a Community Hospital



Peng Ly, PharmD Candidate, Breanna Lee, PharmD Candidate, Camille Camargo Kamboj, PharmD, BCPS , Sarah Chiu, PharmD

BACKGROUND

Its short half-life and studied monitoring levels makes unfractionated heparin one of the most commonly used agents in the post surgical setting. Many literature support that an institution specific dosing nomogram in addition to patient specific factors be considered for dosing after surgery to determine risk of rebleeding or clot formation.

OBJECTIVE

To assess the therapeutic anticoagulation status of patients on heparin continuous infusion pre and post surgery and the dosing practices post surgery in Memorial Medical Center of Modesto

METHODS

- IRB approved for exemption
- Retrospective chart review of eligible patients were performed.
- Retrospective studies inclusion criteria: acute care patients 18 years of age or older, had orders of continuous heparin infusion pre and post a documented surgical procedure
- Retrospective study was conducted from 12/1/2021-1/31/2022 . Data collection: number of patients on heparin infusion, type of surgical procedure baseline demographics, Xa/PTT pre/post surgery, heparin bolus pre/post sugery, heparin drip rate change post surgery

Statistical Analysis:

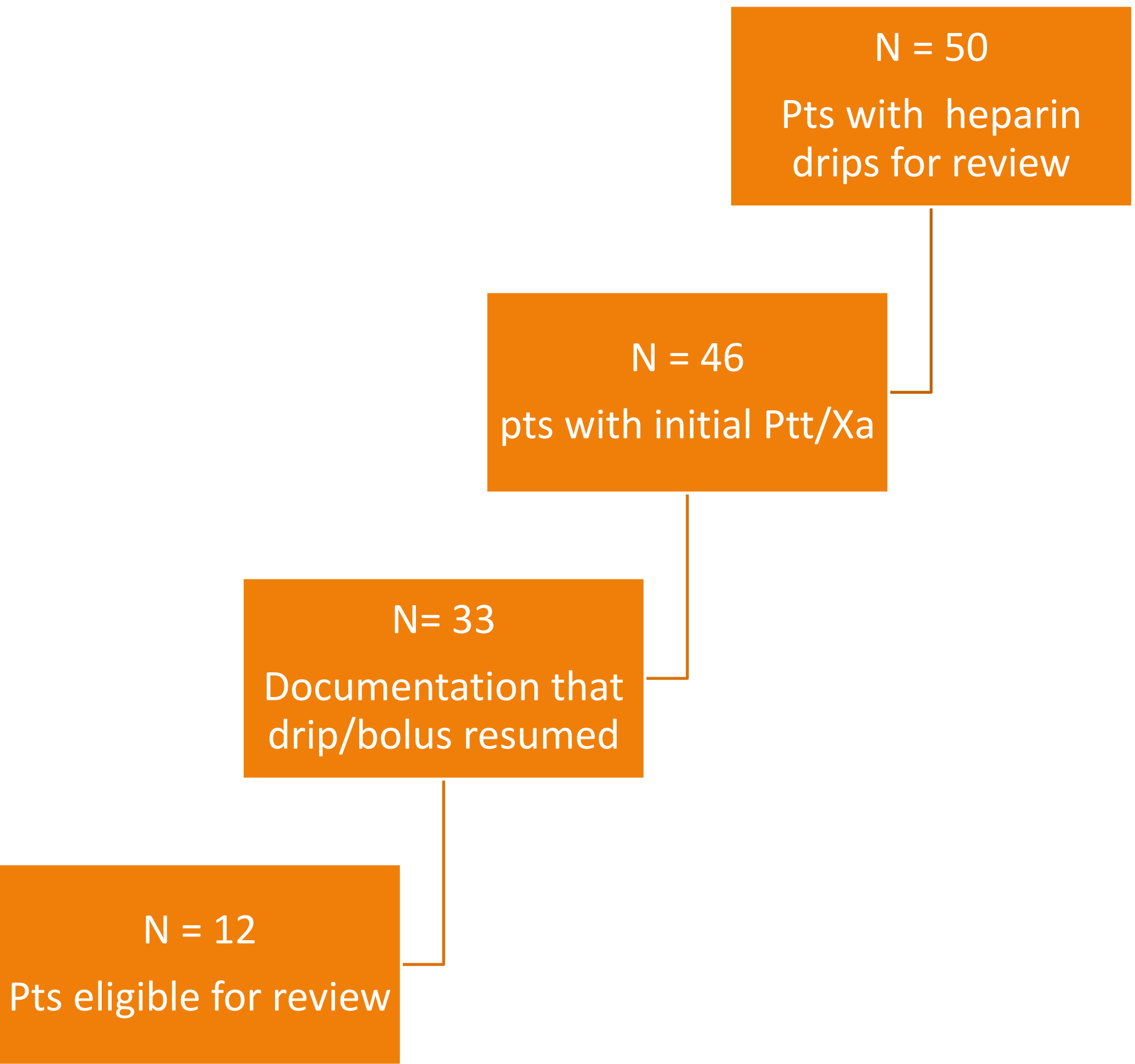
Descriptive statistics were used to report frequencies.

Baseline Demographics

Characteristic	Patients (n= 50)	Procedure	Count
Age, average	72	Angiogram	1
Gender (female)	24	Aortogram	1
Height (cm) average	166.2	Atrial fibrillation ablation	1
Wt (kg) average	80.5	Biventricular Pacemaker	1
BMI (kg/m ²) average	28.1	Bypass Graft axillary femoral (left chest)	1
Creatinine (mg/dL) average	54	Cardiac Cath	5
Current smoker	4	Cardioversion	2
Indication, No (%)		Colonoscopy	3
VTE	14 (28)	Coronary Artery Bypass	4
ACS	17 (34)	Endoscopic Retrograde Cholangiopancreatography with Sphincterotomy	2
Atrial fib	13 (26)	Esophagogastroduodenoscopy	6
other/unknown	6 (12)	Excision cyst mid upper back	1
Comorbidities No (%)		Exploratory Laparotomy	2
CV	48 (96)	Image-guided percutaneous drain placement	1
Pulmonary	12 (24)	Incision and Drainage	2
GI/hepatic	22 (44)	Laparoscopy converted to exploratory laparotomy; colectomy	1
DM	16 (32)	Large volume paracentesis	2
Renal	21 (42)	Left cardiac Catherization	9
Musculoskeletal	27 (54)	Left Femoral Embolectomy	1
Neurologic	11 (22)	Mitral Valve repair	1
Hematologic	11 (22)	Open Gastrostomy Tube Placement	1
Active cancer	1 (1)	Peritoneal Dialysis Catheter removal	1
Previous Medical History No (%)		Right Femoral Artery Thrombectomy	2
VTE	7 (14)	Tracheostomy	2
MI	3 (6)	Transcatheter Aortic Valve Replacement	1
Atrial fib	17 (34)	Transesophageal Echocardiogram	1
Stroke	3 (6)	Ultrasound-guided thoracentesis	1
GI bleed	12 (24)		

Results

Eligible Patients



Retrospective Chart Audit

Pt eligible for review No (%)	N = 12
* Pts with bolus that occurred POST surgery	1 (8)
* Pts with Drip rate increase POST surgery	1 (8)
* Pts with same drip rate PRE and POST surgery	11 (92)
* Pt with drip rate decrease POST surgery	0 (0)
* Pts with ADR events	0 (0)
Pre-surgery	
* Pts with therapeutic Xa/PTt PRE-surgery	7 (59)
* Pts sub therapeutic Xa/PTT PRE-surgery	4 (33)
* Pts supra therapeutic Xa/PTT PRE-surgery	1 (8)
Post surgery	
* Pts with therapeutic Xa/PTt POST-surgery	5 (42)
* Pts sub therapeutic Xa/PTT POST-surgery	6 (50)
* Pts supra therapeutic Xa/PTT POST-surgery	1 (8)

LIMITATIONS

- Small sample size
- Missing chart information
- Not inclusive of pt's rebleeding scores
- Indication of heparin drip

FURTHER DIRECTIONS

- Larger sample size
- Focus on specific high risk surgical procedures

ANALYSIS

The small sample size result of the chart review limits the applicability of the study. Optimal therapeutic anticoagulation pre-surgery was not achieved in all patients which may affect the dosing habits post-surgery. Better processes for administration and documentation with heparin is necessary for MMC.

References

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Disclosure

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

Camille Camargo: Nothing to disclose