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Single-center audit evaluating adherence to a clinical decision-making algorithm for local/regional analgesia in abdominal surgery



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Introduction

- Fascial plane blocks are recommended components of multimodal analgesia for patients undergoing abdominal surgery¹
- Generally, abdominal fascial-plane blocks are considered lower-risk procedures that may be easily and safely performed for a range of patients, including those with altered coagulation status perioperatively²
- Despite their utility, the variety of block techniques can lead to confusion and inconsistency in block utilization³

Methods

- We developed a standardized algorithm to simplify clinical decision-making for regional and local analgesia for abdominal surgery (Figure 1)
- Retrospective cohort study conducted at a single tertiary care Veterans Affairs hospital with an integrated regional anesthesiology and acute pain medicine (RAAPM) service
- All elective general surgery intra-abdominal and abdominal wall procedures performed over a three-month period (July–September 2025) were selected as a convenience sample for the audit

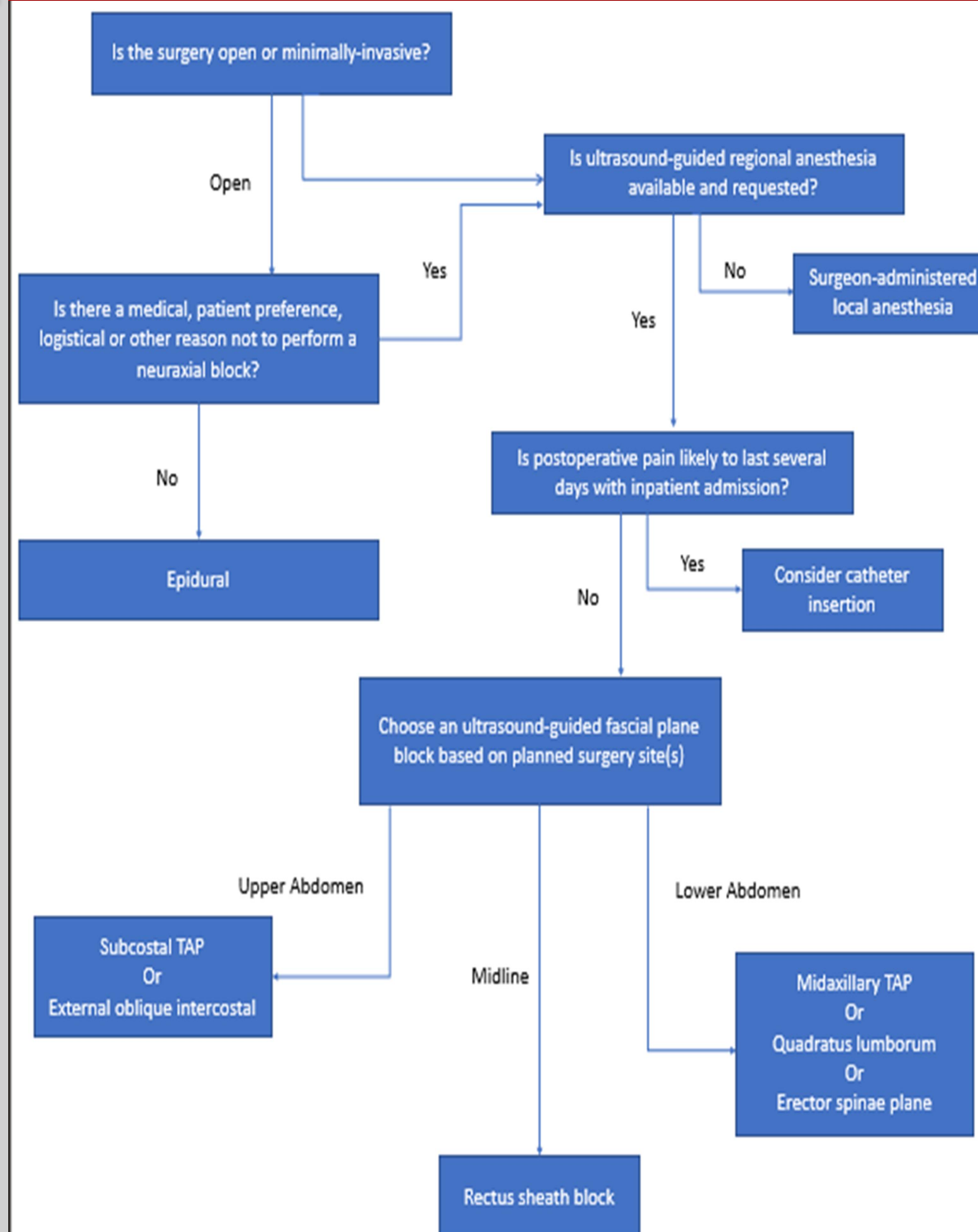
- The primary outcome was rate of adherence to the institutional clinical decision-making algorithm

- Fisher's exact test was used to compare proportions

Table 1: Characteristics of the patients and procedures

	All patients (n = 75)	Regional block (n = 61)	No block (n = 14)	P-value
Age; > 60 y	48 (64%)	38 (62%)	10 (71%)	0.559
Sex; male	63 (84%)	51 (84%)	12 (86%)	> 0.999
Surgical approach				
Minimally-invasive	51 (68%)	40 (66%)	11 (78%)	0.527
Laparotomy (open)*	4 (5%)	3 (5%)	1 (7%)	0.571
Open hernia repair	20 (27%)	18 (29%)	2 (14%)	0.328
Procedure				
Hernia repair	36 (48%)	32 (52%)	4 (28%)	0.142
Resection/excision	22 (29%)	16 (26%)	6 (43%)	0.328
Bariatric	12 (16%)	11 (18%)	1 (7%)	0.444
Other**	5 (7%)	2 (3%)	3 (21%)	0.042
Local/regional technique				
Single-injection block	60 (80%)	60 (98%)	-	
Continuous catheter	1 (1%)	1 (2%)	-	
Surgeon infiltration	13 (17%)	-	13 (93%)	
No local anesthetic administered	1 (1%)	-	1 (7%)	
TAP block	45 (60%)	45 (74%)	-	
II-IH nerve block	12 (16%)	12 (20%)	-	
Rectus sheath block	3 (4%)	3 (5%)	-	
Epidural	1 (1%)	1 (2%)	-	

Figure 1: Clinical decision-making algorithm in abdominal surgery



Results

- Of 77 cases identified, 75 met inclusion criteria
- Overall adherence to the algorithm was 96% (n = 72) although 99% (n = 74) received some form of local (n = 13) or regional (n = 61) analgesia (Table 1)
- Transversus abdominis plane (TAP) block (n = 45) was the most common regional block performed (74%). Hernia repairs comprised nearly half of all cases (n = 36)
- Three cases (4%) were deemed deviations from the algorithm due to:
 - Documented technical difficulty in visualizing II/IH
 - Incorrect block selection (patient received TAP blocks instead of rectus sheath blocks for midline surgery)
 - No documented administration of LA in any form

Conclusions

- The institutional adherence rate to this algorithm was very high, and there was a high rate of consistency in the use of certain block techniques
- While consistent utilization of high-yield procedures (i.e. 'Plan-A blocks')⁴ has been recommended, there are alternative abdominal fascial-plane block techniques that may have a role in optimizing perioperative analgesia

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