

Evaluation of the ERAS program for Elective Abdominal Surgeries - From Perioperative Medicine perspective (A single-center retrospective cross-sectional study)

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Introduction

- Stepping Hill hospital is a center for treatment of colorectal and urological surgery¹
- Most of these cases are done under ERAS pathway

Aim

- To evaluate the ERAS program for elective abdominal operations in Stepping Hill Hospital and compare the outcomes with PQIP (2017/2018) report

Methods

- Retrospective, Cross-sectional, Single-center, Service evaluation
- Inclusion criteria – Adults, Elective laparotomy & laparoscopy, General surgery, Lower GI, Urology & Gynecology
- Exclusion criteria – Not under ERAS pathway, Emergency cases, Pediatric & Obstetric cases
- Time scale - Aug 2017 to Aug 2018
- Data tool – Designed from PQIP data collection form²
- Data source – Trust clinical document system
- Approved by the trust clinical audit department & Edgehill university faculty research committee

Data collection tool

Baseline characteristics	<ul style="list-style-type: none"> Age, BMI, ASA, Functional status
Disease & Surgical factors	<ul style="list-style-type: none"> Diagnosis, Malignancy or not, Procedure done, Duration of surgery
Anesthetic factors	<ul style="list-style-type: none"> Anesthetic method Intraoperative blood transfusion Intraoperative vasopressor infusion
Postoperative complications	<ul style="list-style-type: none"> Mechanical ventilation, Vasopressor infusion, Inadequate pain relief, Cardiopulmonary complications, AKI, DVT, Abdominal complications (Bleeding, Wound infection, intraabdominal infection, Ileus, need for TPN, need for radiological imaging of the abdomen postoperatively, re-exploration)
Duration of hospital stay	

References

- Stockport NHS Foundation Trust, 2019. Our Services. [Online] , Available at: <https://www.stockport.nhs.uk/services>
- Perioperative Quality Improvement Program, 2018. PQIP Annual Report 2017-2018. [Online], Available at: <https://pqip.org.uk/FilesUploaded/PQIP%20Annual%20Report%202017-18.pdf>
- Dindo, D., Demartines, N. & Clavien, P.-A., 2004. Classification of Surgical Complications. Annals of Surg, 240(2), pp. 205-213.

Results

Factor	PQIP report 2017 - 2018	Laparotomy (n – 23)	Laparoscopy (n= 37)
Age (Median)	67	59	71
Sex	Men 61 %, Women 39%	Men 52%, Women 48%	Men 35%, Women 65%
ASA	N/A	ASA 1&2 – 50% ASA 3 – 50%	ASA 1 & 2 – 57% ASA 3- 43%
BMI (kg/m ²)			
<20	2%	0	3%
20–30	68%	65%	78%
>30	30%	35%	19%
Malignancy	N/A	70% Malignancy	68% Malignancy
Pain			
No / Mild pain	90%	61%	95%
Severe	10%	39%	5%
Nausea/Vomiting			
None / Mild	92%	80%	92%
Severe	8%	20%	8%
Confusion	2%	4%	0
Clavien-Dindo 3 or above	10%	39%	19%
Death / Multiorgan dysfunction	N/A	0	0
Mean Length of stay			
CD up to 2	7.2 days	9.6 days	6.7 days
CD 3 or above	21.4 days	18.9 days (One patient remained for 4 months)	22 days

Conclusion

- Our series had higher risk patients
- Despite higher risk, no death/multiorgan dysfunction
- Commonest complications - Inadequate pain relief, Wound infection & Chest infection
- Minimally invasive techniques yielded better results
- Postoperative pain not documented in quantifiable terms

Recommendations

- Documentation of VAS, especially in deep breathing & coughing
- Treating any pain with VAS > 4
- Preop counselling for ASA 3 cases
- To consider epidural when rectus sheath catheter is likely to be inadequate

Recommendations for future research

Randomized trial with and without epidural analgesia for laparotomy cases under ERAS pathway