Poster No.
PE 105

International Surgical Week
The World's Congress of Surgery
isw2024.org
Kuala Lumpur, Malaysia
25-29 August 2024

Benefits Of Application Of "*Enhanced Recovery After Surgery*" Protocols In Thyroid And Parathyroid Surgery In A Limited Resources Setting: ***PaThERAS Study***

ClinicalTrials.gov Identifier:NCT06274970

Rinelle Mascarenhas[1] ,
Sanjay Dhiraj[2], Chetna Shamshery[2], Ruchi Verma[2], Sabaretnam M[1], Gyan Chand[1], Anjali Mishra[1], ***Gaurav Agarwal***[1]

Departments of 1. Endocrine and Breast Surgery and 2. Anaesthesiology
Sanjay Gandhi Institute of Medical Sciences, Lucknow, India

INTRODUCTION

•Enhanced recovery after surgery protocols (ERASP)- evidence-based perioperative protocols devised to expedite postoperative recovery, decrease surgical stress.
•Multiple surgery specific protocols in use.
•Only limited data on their effectiveness in thyroid and parathyroid surgery.[1]
•An ERAS guideline specific to thyroid and parathyroid surgery has not been devised.

AIMS & OBJECTIVES

The ***PaThERAS study*** aimed to
- Determine clinical benefits, cost-efficacy of ERAS protocols tailored for patients undergoing-
  - Thyroidectomy for large benign goitres and thyroid cancers, and
  - Parathyroidectomy for symptomatic primary hyperparathyroidism
  - In non-day-care setting.

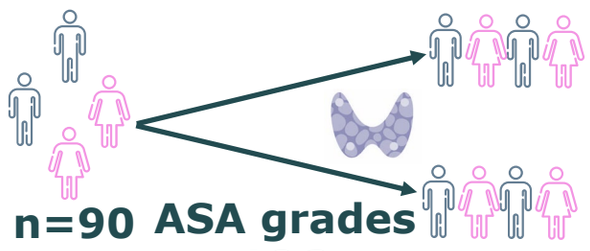
SGPGI *Enhanced Recovery after thyroid-parathyroid surgery protocol (PaThERAS)-* Developed based on:
1. Adaptations from ERAS society guidelines on head and neck surgery
2. Literature including meta-analyses and systematic reviews, RCTs wherever possible[1]
3. Case series/nonrandomized studies, ATA statements in thyroid/parathyroid surgeries[2,3,4]

Key Findings/ Conclusions

- Implementation of ERAS protocols in thyroid and parathyroid surgery- beneficial in improving surgical outcomes, reducing burden on health-care facility, even in low-resource setting
- *High-output neck drains due to large goitres/ cancers resulted in longer hospitalisation until removal, attenuating benefits of ERAS protocol usage to some extent*

Scan QR code to download PDF

PATIENTS AND METHODS



n=90 ASA grades 1&2
n=19 n=71

Study group n=45
=31.1% =68.9%

Control group n=45
=12.2% =87.8%

Conventional or Min. Invasive/ Robotic Total Thyroidectomy +/- Neck Dissection n=39

Parathyoidectomy (Less Than Subtotal PTx) n=6

Block randomisation to ERAS protocol or conventional/ non-ERAS perioperative care based on the day of week they were registered

Flowchart 1.

Prospective cohort of patients (Jan- Dec 2023) at single institute studied. Perioperative outcomes compared with a **matched control cohort** (for age, disease, procedure, ASA grade) patients using ERASP **(Table 1.)** and non-ERASP using appropriate statistical methods

Data Recorded: Demography, Clinical characteristics, Diagnosis, Surgical procedure

Outcome measures
- ✓ Postoperative hypocalcaemia
- ✓ Length of postoperative hospital stay
- ✓ In-hospital costs
- ✓ Postoperative analgesia
- ✓ Postop nausea/ vomiting-PONV
- ✓ Surgical site infection (SSI)
- ✓ Postop hematoma/ seroma
- ✓ Unplanned readmissions

RESULTS

Independent predictors of early post operative transient hypocalcemia	Adj. Odds Ratio	95% CI	p value
Male Gender	0.371	0.13-1.08	**0.07**
Sufficient S.Vitamin D >45ng/dl	0.991	0.98-1.00	**0.09**
Central Compartment Lymph nodes dissected	3.099	1.08-8.88	**0.04**

- Two groups were comparable for age, pathology, tumour size, procedure and drain usage
- Lesser number of males in non-ERASP group. **(Flowchart 1.)**
- PONV rates were similar

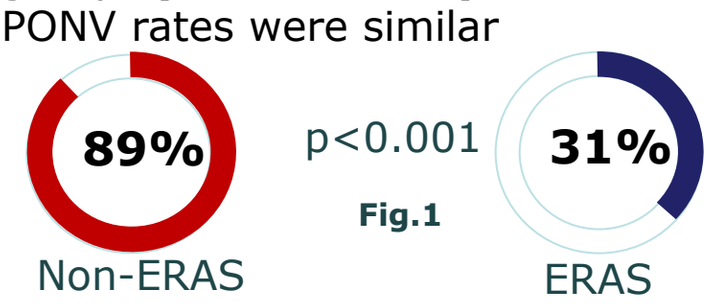


Fig.1

Opioid sparing policy in all patients
Post op additional oral analgesia requirement

58% lesser than controls

Oral PCM- Standard pain relief for all
Additional Diclofenac if pain score >3

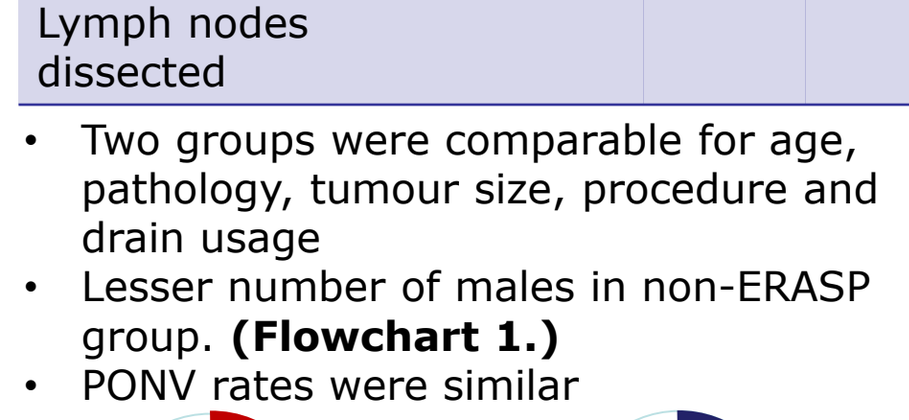


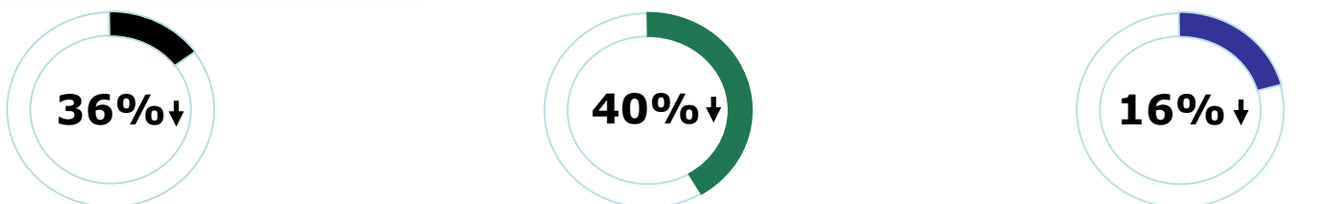
Fig.2

Number of patients (n)

Preoperative Considerations	Operative considerations	Post operative considerations
• Pre-admission education • Peri-operative nutritional care • Peri-op Calcium & Vitamin D supplementation • Reduce pre-operative fasting • Carbohydrate drink • Antibiotic prophylaxis • PONV prophylaxis	• Hypothermia Prevention • Perioperative fluid management • Nerve monitoring • Superficial cervical block (additional to general anesthesia) • Avoid occlusive dressings and drains wherever possible	• Pain management-opioid sparing policy • Postoperative early mobilization • Postoperative wound care • Remove Urinary catheters within 24 h of surgery • Perioperative pulmonary physical therapy

Table.1

Fig.3



Postop transient hypocalcemia
Reduced by 36%
Control Group Rate - 53.3%
p<0.001

Post op hospital stay
Reduced by 40%
3 vs 5 days
p=0.002

In-hospital cost
Reduced by 16%
528$ vs 446$
p=0.5

- Goitre size in patients undergoing Total Thyroidectomy (Mean±SD): 9.98 ± 8.89 cms in non-ERASP, vs 10.28 ± 10.91 cms in ERASP
- ERASP utilization significantly reduced postoperative hypocalcaemia rates and intravenous calcium requirements (p<0.002). **(Fig.2,3)**
- A longer length of stay in-hospital in non-ERASP group- explained by need for calcium infusion/ injections in Vitamin D insufficient patients
- There were no postoperative hematoma/ seroma/ SSI or unplanned readmissions in either groups

REFERENCES

1. Chorath K et al. ERAS... Otolaryngology–Head and Neck Surgery.2021
2.Huber G et al. Optimal... JAMA Otolaryngology–Head & Neck Surgery. 2017.
3. Terris D et al. American Thyroid Association Statement... Thyroid. 2013
4. Khatiwada A et al. Use ... The Journal of Laryngology & Otology. 2021