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Compliance and prediction of same day discharge after laparoscopic hysterectomy: A retrospective cohort study

BACKGROUND

A standardised same day discharge pathway for laparoscopic hysterectomy was introduced at the Birmingham Women's and Children's Hospital in 2019. Our pre-, intra- and post-operative protocols have been refined since then with the aim of enhancing successful same day discharge.

OBJECTIVE

- To assess rates of compliance with a same day discharge pathway.
- To confirm whether previously reported factors predictive of successful same day discharge following laparoscopic hysterectomy were valid in at Birmingham Women's Hospital, a UK teaching hospital.

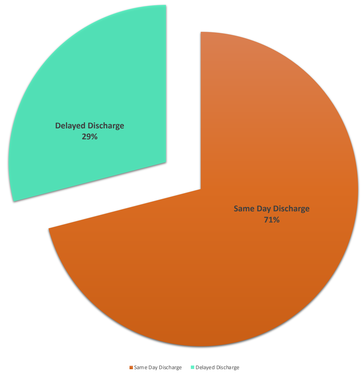
METHODS AND DESIGN

- Retrospective cohort study of 186 patients undergoing laparoscopic hysterectomy between January 2022-December 2024 (24 months) who were planned for same day discharge
- Eligible patients were identified using Operating Management Information System (ORMIS)
- The primary outcome was the rates of successful same day discharge
- Multivariable logistic regression analysis was used to assess factors considered potentially prognostic for successful same day discharge. Independent variables include:
  - Patient characteristics - age, ethnicity BMI, ASA status, previous abdominal surgery, smoking status and distance to home.
  - Surgical variables - blood loss, concomitant surgery, duration, adhesiolysis, operation time and pneumoperitoneum pressure.

RESULTS

- 132/186 (70.9%) women were discharged from the hospital on the same day.
- **Two factors were found to be significantly predictive of successful same day discharge:**
  - **Timing of surgery before 14:00**: 73% (122/168) before 14:00 vs. 25% (2/8) from 14:00 onwards; p=0.01)
  - **Pneumoperitoneum >/= 10mmHg:** 73% >/=10mmHg (120/165) vs. 56% <10mmHg; (10/18) (p=0.01)

Proportion of Women Discharged on the Same Day



		Same day discharge achieved (n=132)	Same day discharge not achieved (n= 54)	Significance P
Age (years) Mean (SD, min, max)		43.6 (9.3, 22, 72)	42.7 (8.6, 27, 71)	0.5
BMI (kg/m2) Mean (SD, min, max)		28.7 (5.6, 15, 45)	27.9 (5.8, 18, 42)	0.5
Intraoperative blood loss (ml) Mean (SD, min, max)		103.7 (73.5, 20, 300)	121.4 (80.0, 50, 300)	0.3
Length of stay (days) Mean (SD, min, max)		0 (0,0,0)	1.4 (1.1,1,7)	
ASA grade		1.5 (0.5, 1, 2)	1.6 (0.5, 1, 3)	0.7
Smoking	Yes	28 (21%)	13 (24%)	0.8
	No	103 (78%)	41 (75%)	
	Missing	1 (1%)		
Previous abdominal surgery	Yes	76 (58%)	39 (72%)	0.3
	No	54 (41%)	15 (28%)	
	Missing	1 (1%)		
Distance to home	<1 Hour	122 (92%)	47 (87%)	0.3
	>1 Hour	10 (8%)	7 (13%)	
Operation time	Before 14:00	122 (92%)	46 (85%)	0.01
	After 14:00	2 (2%)	6 (11%)	
	Missing	8 (6%)	2 (4%)	
Concomitant surgery	Yes	3 (2%)	6 (11%)	0.08
	No	127 (96%)	47 (87%)	
	Missing	2 (2%)	1 (2%)	
Adhesiolysis	Yes	38 (29%)	19 (35%)	0.05
	No	94 (71%)	33 (61%)	
	Missing	0 (0)%	2 (4%)	
Pneumoperitoneum pressure	<10mmHg	10 (8%)	8 (15%)	0.01
	12mmHg	31 (24%)	3 (6%)	
	15mmHg	89 (67%)	42 (78%)	
	Missing	2 (%)	1 (2%)	

DISCUSSION

- Patients suitable for same day discharge should be scheduled for surgery before 14:00
- Low pressure surgery, using operating pressures <10mmHg, has been advocated to reduce post-operative pain. However, in our series low insufflation pressures reduced the chance of same day discharge.
- Larger, multicentre datasets are needed to confirm these findings, explore optimal operating pressures and evaluate post-operative factors.
- Variables should also be evaluated that predict rates of readmission.

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