Obstetric Anaesthesia
Annual Scientific Meeting 2021 goes virtual
10-11 June 2021

Mercy Health
Care first

Effectiveness of an enhanced recovery after surgery for caesarean section program
Assessment of compliance using protocol-determined factors.

Gormley G, Ilyas S, Hiscock R, Simmons S
Mercy Hospital For Women, Melbourne, Australia

Introduction

The Mercy Hospital for Women, Melbourne has recently introduced a successful enhanced recovery after surgery (ERAS) for elective caesarean section program as evidenced by a reduced length of hospital stay. We know that the more adherent patient care is to the ERAS protocol the better the patient outcomes [1-3]. Our aim was to assess overall compliance to the ERAS protocol by reviewing the protocol driven outcomes.

Results

We had a total of 48 patients in the pre-ERAS group and 47 patients in the ERAS group. The main results are listed in the accompanying table *(table 1)*.

	Pre-ERAS (n=48)	ERAS (n=47)	Difference (95% CI)
Length of Stay (days)	3 (2,32)	2 (1,32)	1 (1 to 1) *
Pre-op Fasting fluid (hrs)	7.5 (2.0, 20.0)	2.2 (0.8, 11.2)	2.2 (0.8 to 11.2) *
Pre-op fasting food (hrs)	12.9 (7.2, 21.0)	12.5 (6.8, 16.0)	0.5 (-1.2 to 2.2)
2 intraoperative antiemetics	26 (57%)	42 (91%)	34% (19 to 51)
Post-op fasting fluid (hrs)	1.6 (1.3, 1.9)	1.6 (1.4, 1.7)	0 (-0.3 to 0.3)
Post-op fasting food (hrs)	3.6 (3.0, 4.2)	2.5 (1.9, 3.1)	-1.1 (-1.9 to -0.3) *
Time to urinary catheter removal (hrs)	21.4 (2.0,22.9)	7.4 (12.5, 15.5)	-14.0 (-15.5 to -12.5) *
Time to ambulation (hrs)	21.4 (20.0, 22.9)	5.4 (5.0, 5.8)	-16.0 (17.5 to -14.5) *

TABLE 1
Data presented as median (minimum, maximum), number (%).
* indicates evidence for change between groups
For continuous data present the difference in median (ERAS – pre-ERAS) and Bonnet-Price 95% CI

Methods

We audited two groups; the pre-ERAS group and the ERAS group and compared key pre-, intra- and post-operative interventions that were outlined in the ERAS protocol. These specific protocol driven outcomes are supported by the DREAM principles (drinking, eating, mobilising) which are key elements in many enhanced recovery programs[4].

Discussion

Many studies looking at implemented ERAS programs for caesarean section take protocol-determined intervention results, such as time to urinary catheter removal, as outcome measures. However, these outcomes are protocol driven and hence are a surrogate marker for compliance to the protocol interventions. We know that strict adherence to the protocols in a given ERAS program is an important factor in patient outcomes[1-3]. Our ERAS program achieved its primary outcome of reduced length of stay. We demonstrated that our pre-determined interventions of the DREAM elements of pre-operative fluid fasting, use of 2 antiemetics intra-operatively, time to mobilisation and urinary catheter removal were significantly improved in the ERAS group, allowing us to positively assess compliance in this group and increasing the likelihood of positive patient outcomes.

References

1. Pisarska M, Pędziwiatr M, Małczak P et al. Do we really need the full compliance with ERAS protocol in laparoscopic colorectal surgery? A prospective cohort study. Int J Surg. 2016;36(Pt A):377-82.
2. Ripolles-Melchor J, Ramirez-Rodriguez JM, Casans-Frances R et al. Association Between Use of Enhanced Recovery After Surgery Protocol and Postoperative Complications in Colorectal Surgery: The Postoperative Outcomes Within Enhanced Recovery After Surgery Protocol (POWER) Study. JAMA Surg. 2019;154(8):725-36.
3. Ilyas S, Simmons S, Bampoe S. Systematic review of enhanced recovery protocols for elective caesarean section versus conventional care. Aust N Z J Obstet Gynaecol. 2019;59(6):767-76.
4. Levy N, Mills P, Mythen M. Is the pursuit of DREAMing (drinking, eating and mobilising) the ultimate goal of anaesthesia? Anaesthesia. 2016;71(9):1008-12.