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Original Article

Outcome of Fast Track Surgery (FTS) or Enhanced Recovery after Surgery (ERAS) in Major Gynecological Surgeries

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Abstract

Background: To determine the outcome of fast track in major gynecological surgeries in terms of frequency of tolerating early oral feeding and shorter hospital stay.

Methods: In this descriptive study all patients undergoing major gynecological procedures under general anaesthesia, (total abdominal hysterectomy TAH, vaginal hysterectomy VH,Laparotomy for ectopic pregnancy or ovarian cyst) and without any co-morbid diseases were included. Patients in whom fast track method was applied i.e. patients were mobilized 8 hours after surgery and urinary catheter and i/v cannulas were removed if the patient was haemodynamically stable. Oral liquids were allowed 8 hours after surgery (early oral feeding) with rapid progression thereafter. Patients were observed if they are tolerating early oral feeding i.e. they were having nausea, vomiting, paralytic ileus or not and recorded. Patients were assessed if they were fulfilling the criteria and could be discharged on day 2 (short hospital stay). All patients were given intravenous ceftriaxone 1 g preoperatively. The patient who adequately mobilized without assistance, tolerated early oral feeding and pain free were discharged.

Results: Out of 150 cases of fast track surgery, we recorded mean duration of stay at hospital as 2.81±1.20 days. Frequency of shorter hospital stay was recorded in 38.67% and early oral feeding was recorded in 92.67% .

Conclusion: The outcome of fast track in major gynecological surgeries in terms of frequency of tolerating early oral feeding and shorter hospital stay is better than traditional method.

Key Words:Major gynecological surgeries, Fast track surgery (FTS), Enhanced recovery after surgery (ERAS)

Introduction

Fast-Track Surgery (FTS) is defined as "Enhanced Recovery after Surgery (ERAS) or Rapid or Accelerated Recovery" after Surgery. This technique is neither new nor carries complications. Kehlet[1, 2] introduced it and most of the surgeons adopted it worldwide. The main objective of using such technique was to increase recovery issues after surgery by allowing early hospital discharge and oral feeding.Fast-track surgery (FTS) is a multimodal strategy, defined as an organized peri operative approach in the terms of reducing the stress of surgery and improving postoperative recovery. [1]

FTS programs are also known as Enhanced Recovery after Surgery (ERAS) or Rapid or Accelerated Recovery after Surgery programs. They were first explained by Kehlet in Denmark, and the principles have been widely used by most surgical specialties all over the world. The components of ERAS offer safe practice , quality care. For all women who undergo elective gynaecological surgery, ERAS should become a proposed protocol. [1,2]

Conventionally the oral intake is stopped until the return of normal peristaltic activity. Previously it was thought that early oral intake would lead to vomiting and severe paralytic ileus, thus resulting in aspiration pneumonia, gapped wound, and anastomotic leakage. However, we find a very less scientific evidence in literature for this conventional practice. Still there are some beneficial effects of early postoperative oral intake.[3-5.]

FTS program involves a number of factors and are carries good clinical outcomes.[2] The introduction of a low residue diet 6 hours after major gynaecological surgery is not associated with increased gastrointestinal complaints like paralytic ileus. Fast track surgical strategy, is not only attainable, but is safe, and associated with early discharge, a less risk of readmission and better post-operative outcomes.[2] Early mobilization is one of the main elements of a FTS program. With early mobilization we can reduce the implications of bed rest such as muscle loss and weakness. It will also lead to easy deep breathing and chest physiotherapy. It will allow increased blood circulation thus minimizing the risk of thromboembolism.[2] |Early removal of indwelling catheter has been found to reduce the hospital stay without enhancing complications. Early oral feeding (EOF) is well tolerated by patients and is related to less postoperative complications such as abdominal distention, nausea, vomiting, and paralytic ileus.[2]

The surgical outcomes are improved after following the FTS programs as it causes a reduction in the hospital LOS (length of stay)[7]. In a study it has been found that 95% of the patients tolerate early oral feeding, and 42% have shorter hospital stay in a fast track surgery setting.[4,5]

Patients and Methods

A descriptive case series study was conducted during 2015 in the department of Gynae Obstetrics DHQ Teaching Hospital Rawalpindi for period of six months. Sample size was calculated by using WHO calculator, taking level of confidence=95%, precision= 8%, After written informed consent from patients and permission from hospital ethical committee, patients fulfilling the inclusion criteria were managed postoperatively by fast track method. All patients undergoing major gynecological procedures,i.e., total abdominal hysterectomy (TAH), vaginal hysterectomy (VH),Laparotomy for ectopic pregnancy or ovarian cyst, under general anaesthesia, and without any co-morbid diseases were included. Patients in whom fast track method was applied i.e. patients were mobilized 8 hours after surgery and urinary catheter and i/v cannulas were removed if the patient was haemodynamically stable. Oral liquids were allowed 8 hours after surgery (early oral feeding) with rapid progression thereafter. Patients were observed if they are tolerating early oral feeding i.e. they were having nausea, vomiting, paralytic ileus or not and recorded. In addition patients were assessed if they were fulfilling the criteria and could be discharged on day 2 (short hospital stay). All patients were given intravenous ceftriaxone 1 g preoperatively. The patients who adequately mobilized without assistance, tolerated early oral feeding and were pain free were discharged. Frequency and percentage were calculated for shorter hospital stay and early oral feeding. Effect modifiers like age, cause of surgery were controlled by stratification.

Results

Mean duration of stay at hospital was recorded as 2.81±1.20 days. Frequency of shorter hospital stay was recorded in 61.3 %(n=92) while 38.67 % (n=58) were recorded with longer hospital stay. (Table No. 1) Frequency of early oral feeding was recorded in 92.67 %(n=139) while 7.33 %(n=11) were recorded with longer oral feeding. (Table 1).Stratification for shorter hospital stay with regards to cause of surgery showed that out of 92 cases, 32 had TAH, 21 had VAH and 39 were operated for laparotomy for ectopic pregnancy or ovarian cysts, p value was calculated as 0.98, 0.96 and 1.0 respectively. (Table 2) .Stratification for early oral feeding with regards to cause of surgery showed that out of 139 cases, 53 had TAH, 30 had VAH and 56 were operated for laparotomy for ectopic pregnancy or ovarian cysts, p value was calculated as 0.00, 0.75 and 0.00 respectively. (Table 2).

Table 1.Frequency of shorter hospital stay(n=150)

Variable	Number of patients	%
Shorter hospital stay		
Yes	92	61.3
No	58	38.7
Early oral feeding		
Yes	139	92.67
No	11	7.33
Cause of surgery		
Total Abdominal Hysterectomy	54	36
Vaginal Hysterectomy	40	26.67
Laparotomy for ectopic pregnancy or ovarian cyst	56	37.33

Table .2.Stratification for shorter hospital stay and early oral feeding with regards to cause of surgery

Cause of surgery	Short hospital stay	p value
TAH	32	0.98
VH	21	0.96
Laparotomy for ovarian cyst or ectopic pregnancy	39	1.00
Cause of surgery	Early oral feeding	P value
TAH	53	0.00
VH	30	0.75
Laparotomy for ectopic or ovarian cyst	56	0.00

Discussion

Fast-track surgery (FTS) is defined as "Enhanced Recovery after Surgery (ERAS) or Rapid or Accelerated Recovery" after Surgery. This technique is neither new nor carries any complication. Kehlet introduced it and most of the surgeons have adopted it worldwide. [1,2]The main objective of using such technique was to increase recovery issues after surgery by allowing early hospital discharge and oral feeding.

Findings of present study are in agreement with a study by Carter J who in their clinical audit recorded that 95% of the patients tolerate early oral feeding, and 42% have shorter hospital stay in a fast track surgery setting.[4]Yang D described Fast-track surgery enhances clinical recovery and improves postoperative outcomes after elective open surgery for colorectal carcinoma. Though we performed this technique in gynaecological patients and Yang D et al investigated in colorectal carcinoma but the outcome reagrding short hospital stay is comparable with our results. [7]

Another study demonstrated the satisfaction among the gynecological patients.[8] A self-administered satisfaction questionnaire by the European Organization for Research and Treatment of Cancer (EORTC) cancer In-patient satisfaction with care measure (INPATSAT-32) questionnaire with additional questions was administered. A total of 106 gynecology patients were included from Royal Prince Alfred Hospital.[8] Participants responded with high levels of satisfaction in the terms of patient care and support received from doctors, ward nurses and the hospital as a service and care organization, after incorporating fast-track surgical program. Early hospital discharge after gynaecological surgery results in both enhanced recovery after surgery (ERAS) and high levels of patient satisfaction.

Engelman RM determined the role of fast track program. This concluded that with the use of fast track the patients are not at any additional risk. [9,10] Fast track improves the recovery, patient well-being and finally earlier discharge from both the intensive care unit(ICU) as well as from the hospital without any risks.[9,10] Patients with some complications can also be fast tracked, to enhance recovery. Fast tract surgery in the terms of success and failure has been studied in Pakistan[10, 11] and concluded to be successful not only in Pakistan but world wide. [10-14]

Conclusion

Outcome of fast track in major gynecological surgeries in terms of frequency of tolerating early oral feeding and shorter hospital stay is better and it can be used in our local setup where already burden of patients is higher.

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