Day Case Laparoscopic Cholecystectomy in a District General Hospital: An Audit of Length of Post-Operative Stay

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Abstract: Advances in anaesthetic and surgical techniques have made day surgery a safe and effective method of providing cost effective healthcare by increasing patient turnover and reducing waiting lists. From 1st February to the 31st May 2011, an audit of the length of post operative stay was studied in a group of 39 patients admitted to the Day Surgery Unit (DSU) for elective Laparoscopic Cholecystectomy. During this period a range of fast track principles were introduced. There was a statistical difference (p=0.001) in the median length of post operative stay between the pre and post intervention groups (21 vs. 8 hrs), with an increase in the rate of same day discharge from 64% to 92%. This resulted in a significant impact on reducing waiting list times, financial benefits for the trust, and contributed to the development of a dedicated Day Case Laparoscopic Cholecystectomy Pathway.

Introduction

Day case surgery is the admission and discharge of a patient for a planned surgical procedure on the same day. This can provide suitable patients with safe and effective treatment, whilst allowing Trusts to provide more cost effective healthcare by increasing patient turnover and reducing waiting list times. However, poor organization, ineffective or inappropriate use of day case facilities and combining inpatient and day case operating lists can all result in sub-optimal utilization of day case facilities.

Constant advances in both anaesthetic and minimally invasive surgical techniques, along with the introduction of enhanced recovery and fast track surgery, have allowed a greater scope of feasible day case procedures. One such procedure is Laparoscopic Cholecystectomy which is now included in the British Association of Day Surgery ‘Directory of Procedures’ (2012), Audit Commission ‘Basket of Procedures’ (2001) and the 2011 ‘Best Practice Tariff’.

The aim of this audit was to compare the length of post operative stay of patients who were admitted to the DSU to undergo day case Laparoscopic Cholecystectomy, before and after the introduction of fast track principles.

Methods

In this retrospective study, all patients who were scheduled to undergo a Laparoscopic Cholecystectomy from the 1st February to 31st May 2011 at the Kent and Sussex Hospital, Tunbridge Wells were identified. Of this group, only those who were deemed suitable for day case surgery and admitted to the hospital’s DSU were included.

At the midpoint of the study (1st April 2011), a range of interventions were introduced (Table 1).

In this group the length of post operative stay was calculated using the time the patient entered the recovery room (Theatreman) to the time the patient was discharged from the ward (PatientCentre). The data was collected using Microsoft Excel and statistically analysed using SPSS. Permission to carry out this study was gained from the Audit Department at the Maidstone and Tunbridge Wells NHS Trust.

Results

From the 1st Feb to 31st May 2011, 84 patients were scheduled for a Laparoscopic Cholecystectomy (J183). 55.4% (n=47) were considered suitable for day surgery.

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Table 1 The range of interventions introduced.

The range of interventions included:

- From the 1st April, all patients booked for laparoscopic cholecystectomy are admitted to the dedicated Day Case Unit, with the day surgery and bed management teams being educated to reasons for failure.
- The pre-assessment clinic informing the theatre booking department of possible success/failure patients.
- Principles of fast track surgery adhered to:
  - Good analgesia, postop NSAID, Paracetamol and PRN oral opiate
  - Prescription charts altered accordingly if necessary.
  - Nurse led discharge, no surgical review waited on.
  - Prompt Electronic Discharge Notification and early preparation of take home analgesia.
- Pre stocked standardised bags.

The mean age was 55 ± 17 yrs, with 75% being female.

Of these 47 day case patients, 28 were admitted to the DSU pre intervention and 19 patients post intervention. There was a statistical difference (p<0.001) in the median length of post operative stay between the pre and post intervention groups admitted to the DSU [21 vs. 8 hrs] (Figure 1). This also resulted in an increase in the proportion of patients being discharged the same day following their procedure, from 64% to 92% (Figure 1).

Discussion

Laparoscopic cholecystectomy is a common surgical procedure, with around 50,000 cases being performed in the UK each year. Historically however, only a small proportion of these cases were performed on day case basis. This has been found to be a safe and effective intervention, with a same day discharge rate of up to 81% with no significant difference in morbidity, prolonged hospital stay, re-admission rates or patient satisfaction.

In this study we identified a range of simple interventions designed to improve efficiency in the day case pathway, such as the introduction of nurse led discharge and listing Laparoscopic Cholecystectomy as a default to day case procedure. These changes were similar to those identified in a recent rapid improvement study designed to support 10 Healthcare Trusts to increase their Laparoscopic Cholecystectomy day case rates. With the introduction of a standard pathway and highlighting areas where rates can be improved, they were able to substantially increase performance, with an additional 45% of patients undergoing Laparoscopic Cholecystectomy on a day case basis.

Not only do increased day case rates make a positive contribution to patient turnover, cancellation rates and waiting times, they also allow more efficient allocation of services and financial benefits for the Trusts. In this study we were able to demonstrate an increase in the same day discharge rate from 64 to 92%. Extrapolation of these figures would result in over £40,000 in additional income from Best Practice Tariff over the year, not including the costs associated with overnight stay and cancellations.

As this was a retrospective study using data collected from an electronic database, we focussed on only collecting basic demographic data and the length of post operative stay, but this did not allow for accurate assessment of past medical history. As the interventions included highlighting suitable day case patients, there is the possibility that the post intervention group was a healthier population and was therefore biased by patient selection. This may also account for the discrepancy between the size of the pre and post intervention groups. This may have been avoided by collecting data on the patients ASA grades and should be introduced as part of future methodology.

Our recommendations are that for suitable patients, Laparoscopic Cholecystectomy should be made a default to day case procedure. Greater communication and training within the multidisciplinary team allowed suitable day case patients to be identified and operating lists to be organized efficiently. By introducing fast track principles, such as day anaesthesia, prompt TTOs and nurse-led discharge this allowed suitable patients to receive safe and effective treatment, whilst providing more cost effective healthcare.

References

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