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Can a Post-Discharge Telephone Call Reduce Hospital Readmission after Colorectal Surgery?

A Prospective Study.

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Abstract

Background

Hospital readmission after major colorectal surgery is a major economic burden and a benchmark of quality care by government agencies [1]. We hypothesized that a post-discharge telephone follow-up (TFU) could reduce readmission after abdominal colorectal surgery.

Methods

Consecutive patients undergoing abdominal colorectal surgery over the 4-month period ending Oct 2016 were prospectively evaluated. A structured TFU call during the 4-day period after hospital discharge evaluating the patient's clinical status and possible interventions to avoid readmission was conducted by a second-year medical student, supervised by two board certified colorectal surgeons [2]. Readmission rates were compared to a control group undergoing abdominal colorectal surgery by the same surgeons not receiving TFU over the prior 12-month period. Low-complexity surgery was defined as small bowel resection, right colectomy, creation or revision of ileostomy or colostomy. High-complexity surgery included left or total colectomy, or proctectomy with or without diversion. Groups were compared using Fisher's exact test.

Results

The TFU patient group (n=74) and control patient group (n=134) were well matched in all clinical and operative characteristics except for case complexity. TFU group patients were more likely to undergo low-complexity surgery (n=41;55%) compared to control group patients (n=35;26%) (p=0.001). Readmission rates in the TFU patient group (n=9; 12%) and control patient group (n=26; 19%) were comparable (p=.25). For patients undergoing high-complexity surgery, readmission rates were not statistically different between the TFU patients (n=6;18%) and control patients (n=14; 14%). For patients undergoing low-complexity surgery, readmission rates were significantly lower in the TFU patient group (n=3;7%) compared to the control patient group (n=12;34%) (p=0.004).

Conclusions

A simple, post discharge medical student-led phone call significantly reduced the rate of readmission after low-complexity but not high-complexity colorectal surgery. Readmission after high-complexity colorectal surgery appears unpreventable. We recommend early post-discharge telephone follow-up to reduce readmission after abdominal colorectal surgery.

Clinical Features

Well-Matched Clinical Characteristics

	Phone Call (n=74)	No Phone Call (n=134)
Sex (M/F)	38/36	64/70
Median Age At Surgery (Range)	48 (16-74)	41 (10-82)
Median Postoperative Duration In Days (Range)	3 (1-15)	5 (1-20)

Readmission Rates By Surgery Type

No Phone Call (n=134)			Phone Call (n=74)		
Surgery Type	Readmission	No Readmission	Surgery Type	Readmission	No Readmission
High-Complexity (n=99)	14 (14%)	86 (86%)	High-Complexity (n=33)	6 (18%)	27 (82%)
Low-Complexity (n=35)	12 (34%)**	22 (66%)	Low-Complexity (n=41)	3 (7%)**	38 (93%)
Total (n=134)	26 (19%)	108 (81%)	Total (n=134)	9 (12%)	65 (88%)

Discussion

- For patients undergoing low-complexity surgery, readmission rates were significantly lower for the patients who received the phone call compared to the control group (p=0.004)
- We recommend an early post-discharge telephone follow-up to reduce readmission following colorectal surgery

References

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- ²Varadhan, KK, et al. The enhanced recovery after surgery (ERAS) pathway for patients undergoing major elective open colorectal surgery: A meta-analysis of randomized controlled trials. *Clin Nutr*. V 2010; Vol 29, Issue 4.