August 2017 Featured Articles, Volume 225

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Article 1: General Surgery
Laparoscopic reoperative antireflux surgery is more cost-effective than open approach. Banki F, Weaver M, Roife D, et al. J Am Coll Surg 2017;225:235–242

Article 2: Breast; General Surgery
Cost analysis of a surgical consensus guideline in breast-conserving surgery. Yu J, Elmore LC, Cyr AE, et al. J Am Coll Surg 2017;225:294–301

Article 3: Burn, Trauma, Critical Care; General Surgery
Decreasing the use of damage control laparotomy in trauma: a quality improvement project. Harvin JA, Kao LS, Liang MK, et al. J Am Coll Surg 2017;225:200–209

Objectives: After reading the featured articles published in this issue of the *Journal of the American College of Surgeons* (JACS), participants in this journal-based CME activity should be able to demonstrate increased understanding of the material specific to the article featured and be able to apply relevant information to clinical practice.

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ARTICLE 1

(Please consider how the content of this article may be applied to your practice.)

Laparoscopic reoperative antireflux surgery is more cost-effective than open approach

Banki F, Weaver M, Roife D, et al
J Am Coll Surg 2017;225:235–242

Learning Objectives: The reader should learn the factors driving the cost effectiveness of laparoscopic reoperative antireflux surgery compared with an open approach; understand the potential complications of laparoscopic reoperative antireflux surgery; and know the indications for Roux-en-Y esophagojejunostomy in treatment of patients with recurrent hiatal hernia. The reader should also know the rate of recurrent hiatal hernia after laparoscopic reoperative antireflux surgery compared with an open approach, and its effect on overall costs.

Question 1

The most important factor driving the cost-effectiveness of laparoscopic antireflux surgery compared with an open approach is:

a) Shorter operative time
b) No need for transfusion
c) Shorter length of stay
d) Less costs of instruments in the operating room
e) Less complications related to esophageal leak

Critique: Our study showed that the laparoscopic reoperative antireflux surgery is more cost-effective than

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the open approach. Advantages of the costs included shorter operative time and length of stay. In addition, our study showed that cost-effectiveness was reflected in costs of the hospital rooms, laboratory, radiologic studies, pharmacy charges, and respiratory therapy, which are reflected in the overall manifestation of shorter length of stay and fewer postoperative complications, such as less blood transfusion and fewer pleural effusions requiring drainage. Importantly, the costs of the supplies in the operating room were similar for the 2 approaches, but the length of operation was significantly less with the laparoscopic approach, resulting in lower operating room costs. Comparing laparoscopic vs open approach, the average direct costs for operating room are: $3,788 vs $5,547 ($p = 0.011$); hospital room: $1,948 vs $6,438 ($p < 0.005$); and supplies: $4,386 vs $5,386 ($p = 0.077$).

Question 2

The rate of conversion to an open procedure in reoperative antireflux surgery in specialized centers is approximately:

a) 2%
b) 10%
c) 20%
d) 30%
e) 50%

Critique: The rate of conversion in reoperative laparoscopic antireflux surgery is variable and is related to the surgeon and the operative team expertise. Our reported rate of conversion was 10.5%, which is similar to what has been reported in the specialized esophageal centers. There has been no conversion in the last 15 of 38 cases in our series and the reoperative cases to date. This finding emphasizes the need for reoperative antireflux procedures to be performed in specialized esophageal centers.

Question 3

When treating patients with recurrent hiatal hernia, Roux-en-Y esophagojejunostomy is the treatment of choice:

a) For recurrent type IV hiatal hernias
b) For recurrent type III hiatal hernias
c) For recurrence after an earlier transabdominal hiatal hernia repair
d) For recurrence after an earlier transthoracic hiatal hernia repair
e) In patients with multiple failed reoperative antireflux operations

Critique: We perform gastric-preserving Roux-en-Y esophagojejunostomy in patients with multiple failed reoperative antireflux operations or after 1 attempt of laparoscopic reoperative repair that has been performed in specialized esophageal centers. Where an adequate esophageal length was achieved, tension-free crural closure was performed and the mesh was used for crural closure, if needed.

Question 4

Comparing laparoscopic and open antireflux surgery, which of the following statements is TRUE:

a) When cumulative costs of recurrent hiatal hernias after reoperative laparoscopic antireflux surgery were compared with the cost of an open approach, there were no cost advantages to the laparoscopic approach.
b) Most recurrent hiatal hernias occur in the immediate postoperative period in both approaches.
c) Reoperation for recurrent hiatal hernia after reoperative antireflux surgery occurred in 8.3% of patients in our series, with a minimal time of 6 months after surgery.
d) Intra-abdominal esophageal length can be achieved more easily in the laparoscopic vs open approach.
e) Reoperation for recurrent hiatal hernia is more common in the open approach.

Critique: In our series, the rate of recurrent hiatal hernia requiring reoperative procedures was 3 of 36 (8.3%), which occurred at 6, 24, and 27 months after surgery in the laparoscopic group vs none in the open group. This difference did not reach statistical significance, but is an important factor to consider when outcomes and costs of laparoscopic and open approaches are compared. When cumulative costs were calculated and costs of the 3 recurrences were added to the laparoscopic group and were compared with those of patients in the open group, the driving force that reduced costs remained length of stay and related factors, such as laboratory, respiratory, pharmacy, and radiology. There was no difference between the open and laparoscopic approaches in obtaining adequate intra-abdominal length, and none required a Collis gastroplasty.

ARTICLE 2

(Please consider how the content of this article may be applied to your practice.)

Cost analysis of a surgical consensus guideline in breast-conserving surgery

Yu J, Elmore LC, Cyr AE, et al
J Am Coll Surg 2017;225:294–301