Laparoscopic cholecystectomy in a rural family practice: The Vivian, LA, experience

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Practice recommendations

- Laparoscopic cholecystectomy can be performed safely and effectively by a trained family physician (C).
- Family physicians with expanded surgical skills can enhance access to procedures in rural and underserved populations (C).
- This focused review of outcomes and comparison to published case series, serves as a model for continuous practice assessment and improvement (C).

Abstract

Objective To evaluate the feasibility of family physicians safely and effectively performing laparoscopic cholecystectomy in a community hospital, as compared with published case series in the surgical literature.

Methods A case series of self-referred patients from the surrounding community to a family physician–run community hospital in rural Louisiana from 1992 to 2001. The cohort represented a consecutive, volunteer convenience sample of self-referred patients requiring laparoscopic cholecystectomy, aged 18 to 89 years, of diverse demographic background.

Main outcome measures included mortality, complication, reoperation, and conversion to open procedure rates.

Results One hundred eight patients have undergone laparoscopic cholecystectomy; there have been no deaths; 2 cases were converted to open procedures; no common bile duct injuries, postoperative complications, or long-term complications.

Conclusion The outcomes of this series of laparoscopic cholecystectomy were similar to those of other case series and met published standards of care.

Laparoscopic cholecystectomy was first performed in France in 1987. In 1989, Reddick popularized this procedure in the United States. Laparoscopic cholecystectomy was a natural outgrowth of laparoscopic surgery done by gynecologists in pelvic surgery and orthopedic surgeons doing endoscopic joint surgery for many decades before 1989. By late 1990 and early 1991, laparoscopic cholecystectomy had become widespread.

Large series of laparoscopic cholecystectomy were reported with few complications, and most surgeons and patients prefer laparoscopic cholecystectomy to open cholecystectomy. Unfortunately, access to laparoscopic surgery and other procedures is limited in more rural areas. In this article, we report the first series of...
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METHODS
From June 1992 to June 2001, the medical records of all patients with cholecystitis or cholelithiasis requiring surgical treatment at North Caddo Medical Center (NCMC), in Vivian, Louisiana, were reviewed. This group of patients was self-referred and consisted of consecutive individuals who presented to 2 family practitioners (1 primary surgeon and 1 partner) at the NCMC.

Patient selection for surgery was made preoperatively on the basis of history, physical, and laboratory diagnostic evidence of gall bladder disease. No patients were referred to other facilities.

Surgical technique
Laparoscopic cholecystectomy was performed using the surgical technique advocated by Dr. Reddick using 4 ports. All surgery was performed by the lead author after he completed the course taught by Dr Reddick. The first 9 operations were performed in a tertiary hospital (Willis-Knighton Hospital, Shreveport, La) for credentialing purposes. Case-by-case modifications of the technique were sometimes necessary for successful outcomes.

RESULTS
This series involved 108 patients from ages 18 to 89 years (17 were 18–34 years, 46 were 35–64 years, and 45 were ≥65 years), all of whom presented to NCMC for cholecystectomy. Patients were about 60% white and 40% African American; about 75% were female. Patients lived in a 450-square-mile service area. Forty-one percent of patients possessed private insurance, 44% had Medicare, and 23% had Medicaid.

About 30% of patients had significant medical morbidity and about 30% had previous abdominal or pelvic surgery. Accordingly, the insertion point of the Veress needle was adjusted to avoid the risk of injury.
Laparoscopic cholecystectomy is cost-effective and produces less morbidity than open cholecystectomy

requires focused training, discipline, skills and technology, and ongoing maintenance of competency. More sophisticated technology may become available and transportation and physical barriers to access may ease. But we believe this series demonstrates that procedural training and ongoing practice assessment can provide timely, safe, and appropriate access to the latest surgical techniques.

Since we closed this study, we have performed another 30 cases with similar excellent results and a substantial decrease in procedure and postoperative recovery time (90 minutes and 7 hours, respectively). Our ongoing assessment of our practice and performance improvement are integral to procedural excellence.

**CONCLUSION**

The authors have successfully delivered this well-defined surgical service in their community without any compromise in quality of care. The resources are unique, including training, team selection, and collaboration within a rural community hospital setting.

This experience suggests that an alternative model of practice and surgical training in family medicine may be feasible and offer effective, and perhaps superior results in rural communities. The inclusion of procedural skills in the scope of family medicine should be considered as a viable solution to the healthcare access and quality concerns of rural Americans.
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REFERENCES