Retrospective and prospective multi-institutional laparoscopic cholecystectomy study organized by the Society of American Gastrointestinal Endoscopic Surgeons


Participating institutions: Abington Memorial Hospital, Abington, PA; Assaf Harofeh Medical Center, Zerifin, Israel; Cedars-Sinai Medical Center, Los Angeles, CA; Dakota Medical Center, Fargo, ND; Elmhurst Hospital, Chicago, IL; Fairfield Memorial Hospital, Fairfield, IL; Franklin Memorial Hospital, Farmington, ME; Grant Medical College, Bombay, India; Hermann Hospital, Houston, TX; Lukaskrankenhaus Neuss, Germany; Mayo Clinic, Rochester, MN; Mt. Sinai Hospital, Chicago, IL; Mt. Sinai Hospital, Cleveland, OH; Mt. Sinai Medical Center, Miami Beach, FL; Multi-care Medical Center, Tacoma, WA; Ninewells Hospital, Dundee, Scotland; Rose Medical Center, Denver, CO; Rush Presbyterian, Chicago, IL; St. Luke's Episcopal Hospital, Houston, TX; University of Bordeaux, Bordeaux, France; University of California at Davis, Sacramento, CA; University of California at San Diego, San Diego, CA; University of Colorado, Denver, CO; University of South Carolina, Columbia, SC; University of Texas, Houston, TX; University of Utah, Salt Lake City, UT; Virginia Mason, Seattle, WA; Washington University, St. Louis, MO.

No other new surgical procedure has been as quickly accepted by practicing surgeons as laparoscopic cholecystectomy (LC). Comparing the time interval from introduction to widespread adoption of other new operations this century, such as vagotomy and open cardiac procedures, it took remarkably little time for the surgical community to accept LC. Surgeons were anxious to learn and practice this new procedure immediately since removal of the gallbladder is such a common surgical procedure. To perform endoscopic surgery, surgeons had to improve eye-hand coordination and adapt to a new tactile sensation and lack of depth perception. In contrast to such an educational exercise, 5 years of training are given to surgical residents, during which they learn cholecystectomy and other types of biliary surgery under supervision. By then they can manage most complicated cases as the primary surgeon. However, a trained biliary surgeon does not need an additional 3 years to learn laparoscopic surgery. Instead, a well-organized training program is required, in which trainees are acquainted with basic endoscopic techniques, which in most surgical programs, were usually not acquired until recently.

The Society of American Gastrointestinal Endoscopic Surgeons (SAGES) was faced with the task of creating policies relating to the privileging of surgeons for LC. Guidelines on standards of practice were issued and a strong recommendation was made as to how training courses should be structured. SAGES agreed to officially endorse courses that met the criteria set by its education committee [1]. This task was difficult, since there was an almost overwhelming demand for the procedure by patients that was fueled by media publicity.

Another difficulty arose in attempting to meet the demand for appropriate instrumentation. Few existing manufacturers were able to supply endoscopic instruments in sufficient quantity for international needs. Economic incentives spurred the growth of new companies and further popularization of LC was driven by the intense industrial effort to succeed in this new field. Parallel to the industrial momentum was a proliferation of instructional courses in LC, many established within a very short time, often aiming to educate surgeons in a brief time frame with limited hands-on experience. The SAGES Continuing Education Committee and Board not only helped various organizations to establish courses, but with the assistance of its Corporate Council (Industrial Representatives) helped coordinate the provision of instruments and material for these courses. In addition, SAGES sponsored a course called "Training the Trainers" for those institutions that desired to provide basic standard instruction for their faculty and residents.

This was the setting in which SAGES, a society of...
1,700 board-certified surgeons and several hundred candidate members (residents), helped all interested individuals and organizations in the acquisition of acceptable training for the safe and expeditious performance of LC.

Aim of study

In 1990, the Education Committee of SAGES initiated both a retrospective (RS) and prospective (PS) study of LC among SAGES members. The purpose of this study was to ascertain the results of LC in various settings, e.g., rural or urban areas and community or teaching hospitals.

Materials and methods

The retrospective study (RS) was started in June 1990 and was closed 8 months later after the entry of 900 cases provided by 16 surgeons at 12 institutions. One participant was from Europe, one from India, and 14 from the United States. The prospective study (PS) started in January 1990 and was closed after 15 months; it reviewed 1,771 cases submitted by 23 surgeons at 22 institutions, 4 of them from Europe and 19 from the United States. The data were entered into an Intel 386 class machine using Alpha 4 and Reflex as data bases and Charisma from MicroGraphix for the graphics.

Results

Age

The average age of male patients in RS was 52.2 years and in PS 52.3 years. For women in the RS it was 45.2 and in PS 45.6. There were no significant differences between the two groups (Fig. 1).

Sex

The percentages between the two groups were almost exactly the same, with 22.1% of males in the retrospective and 22.2% in the prospective study.

Weight

The weight range for male patients in RS was 75–335 lb with a mean of 172.9 lb, which increased slightly to 184.6 lb in PS (range 74–400). For women the range was 75–318 lb in RS with a mean of 149.6 and 75–467 in PS with a mean of 162 lb (Figs. 2 and 3).

Concurrent conditions

Previous abdominal surgery

This was initially thought by many to be a relative contraindication in the early stage of LC. With wider experience this has changed and today, the technique of open laparoscopy has been more widely adopted, allowing for safer laparoscopy even in the presence of multiple scars. The incidence of previous surgery in RS was 26% and in PS 32.5%.

Common duct stones

In the preoperative stage, common duct stones were thought to be present in 1.8% in RS and 2.1% in PS.

Previous pelvic surgery

The incidence of pelvic surgery in the RS group was 19.3% and in the PS, 24.7%.