

Survey on Torino courses

The impact of a two-day practical course on apprenticeship and diffusion of laparoscopic cholecystectomy in Italy

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Abstract. Since March 1991 a monthly course on laparoscopic cholecystectomy has been organized at the Department of Surgery of the University of Turin. To evaluate the impact of this course and to obtain feedback from surgeons in order to improve the teaching of laparoscopic surgery, detailed questionnaires were sent to the participants of the first 20 courses.

The outcome of this survey shows that short-residency “hands on” courses do not represent a completely satisfactory training, either for practicing surgeons or for residents, mainly because of the constraints of time and the lack of proctoring and supervision. Besides, the present study shows a significant difference in the diffusion of laparoscopic surgery in different areas of Italy.

However, clinical results reported by this group of surgeons are satisfactory and comparable to the best multicentric series: 2,127 laparoscopic cholecystectomies were performed by 48 surgeons with a conversion rate of 6% and a complication rate of 2.4%.

Key words: Laparoscopy — Laparoscopic cholecystectomy — Surgical education

In November 1990 the first Italian course on laparoscopic cholecystectomy (L.C.) was organized at the Department of Surgery of the University of Turin. The immediate success of this event induced us to organize a monthly practical course from March 1991 onward.

To evaluate the impact of such a course and to obtain feedback from surgeons in order to improve the course structure, detailed questionnaires were sent to

all the participants of the first 20 courses. The data that we have collected allow us to evaluate the impact of such a course on the national diffusion of laparoscopic surgery and to suggest guidelines in order to make improvements in the training of surgeons in L.C.

Materials and methods

Between March 1991 and December 1992, 20 workshops on L.C. were organized at the Department of Surgery, I Clinica Chirurgica, University of Turin. The workshops were held under the auspices of the European Association for Endoscopic Surgery (EAES). Each workshop consisted of a 2-day course for six participants. Only fully trained digestive surgeons were accepted. The program of the courses is summarized in Table 1: theoretical sessions, pelvic trainers, animal laboratories, and direct participation in two L.C. per surgeon are included.

Some 120 Italian surgeons attended the courses; 6 of them had performed L.C. before attending the course and have not been included in this study; 114 questionnaires were sent to 37 consultants (32%), 49 senior assistants (43%), and 28 assistants (25%). We strongly suggested that surgeons be supervised by one of the faculty staff when performing their first L.C. at their own institutions. In fact 33 surgeons (29%) were supervised during their first cases (mean 2.3 cases; range 1–6).

Results

We have received 66 completed questionnaires (58%). Some 73% of consultants, 67% of senior assistants and 21% of assistants answered the questionnaire (Table 2). The geographical distribution of surgeons is also reported in Table 2.

Concerning the evaluation of the quality of the courses, surgeons were asked to give a score (1–10) to the different parts of the workshop. A positive global appreciation was given by the vast majority of surgeons (Table 3).

When questioned as to whether they did consider

Table 1. Program of Torino courses on laparoscopic cholecystectomy

Day	Time	Topics
Day 1	Morning	Theoretical topics
	Afternoon	Equipment and instruments; manual training on boxes
Day 2	Morning	Participation in 2 laparoscopic cholecystectomies per surgeon
	Afternoon	Animal dissection

Table 2. Questionnaires divided according to surgical experience and geographical areas^a

	Sent	Answers
Consultant	37 (32%)	27 (73%)
Senior Assistant	49 (43%)	33 (67%)
Assistant	28 (25%)	6 (21%)
North	63 (55%)	36 (57%)
Center	20 (18%)	12 (60%)
South	31 (27%)	18 (58%)

^a 114 questionnaires, 66 (58%) answers

the workshop to be sufficient to start performing L.C., 55% of the surgeons answered: No.

When they were asked how L.C. courses could be improved, 6% suggested more theoretical topics, 6% suggested a fewer number of participants per course, and 88% suggested more manual training either on animals (33%) or in the operating room (53%).

After the course 74% of surgeons started performing L.C. This percentage was subject to a wide variation when surgeons were divided into three geographical areas: the percentage of surgeons who never performed a single L.C. after the course was 9% in the northern part of the country, 25% in the center, and 66% in the south (Fig. 1).

The mean period of time between taking part in the course and performing L.C. was 6.1 months (range 1–18). Eighteen surgeons waited more than 12 months before performing their first L.C. Six of them took part in a second course on laparoscopic surgery in another center.

When they were asked why they had not started performing L.C. the answers were: because of lack of equipment (33%) and because of a veto from the chief of the department (55%).

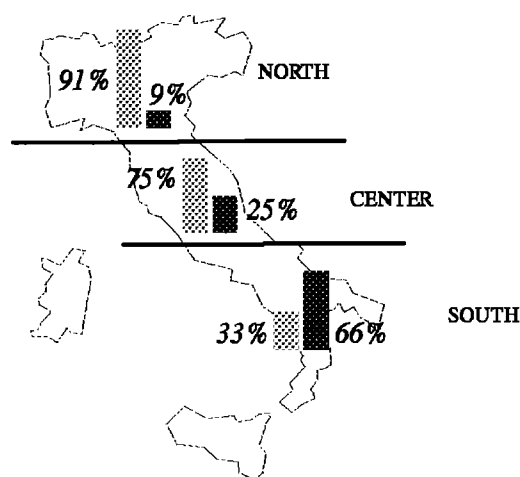
Finally we asked the surgeons to report their clinical results with L.C. Some 2,127 L.C.s were performed by 48 surgeons. The number of L.C.s per surgeon ranged from 4 to 121. Twenty surgeons had performed fewer than 20 cholecystectomies while 7 had performed more than 100 L.C.s.

In the whole group the conversion rate was 6% (129 cases). One patient died of a pulmonary embolism. Major complications rate was 2.4% (51 cases, 8 of which were represented by CBD injuries). A reintervention was needed in 24 cases (1.1%).

When the results were examined in terms of geographical distribution or in terms of laparoscopic experience of the surgeon there were no statistically significant differences.

Table 3. Score (1–10) given to each session of the course

	Mean	Range
Global appreciation	8.8	(7–10)
Theory	9	(7–10)
Endotrainer	7.5	(5–9)
Operating room	8.5	(6–10)
Animal dissection	8.4	(6–10)

**Fig. 1.** Surgeons performing laparoscopic cholecystectomy after the course: (☒) yes, (☒) no.

Discussion

During the early nineties the success of laparoscopic cholecystectomy (L.C.) has been so widespread that it has created an overwhelming demand for training of both practicing surgeons and surgical residents. To respond to this demand many “hands on” courses were organized by academic and nonacademic structures. Unfortunately, these courses varied widely in the quality of instruction and equipment, in the amount of hands-on experience available, and in the number of experienced instructors [8]. Many such courses have been organized and conducted by surgeons with limited clinical and teaching experience. Therefore a strong concern has been expressed by some authors [1, 4, 5] regarding the impact of short-residency courses on the diffusion of laparoscopic surgery among the surgical community.

Since ours is one of the leading academic departments in laparoscopic surgery in Italy, and since we had run 2-day courses on L.C. for over 20 months, we felt the necessity to evaluate the quality of our teaching and the laparoscopic activity of our trainees. The data from the present survey point out that, while all surgeons were highly satisfied with the quality of the courses, 55% did not consider a 2-day course sufficient to prepare one to start performing L.C. They asked for more practice, more animal dissection, more surgical procedures. By asking for more practical training the surgeons in fact indicated that they wanted longer training.

Such a need has recently been outlined by Cuschieri [1] and Forde [4]. Forde noted that “no mat-

ter how well run, no matter how distinguished and experienced the faculty, most endoscopically oriented courses, by their very nature and the constraints of time alone, cannot offer elements that are part of the traditional surgical residency program." The results of our survey confirm that surgeons need more gradual surgical laparoscopic training.

Moreover, we believe that proctoring [6] is an essential part of the learning process, no matter how long the training has been. Only a limited number of surgeons (29%) were supervised by a member of the teaching staff, essentially because of logistic difficulties (80% of surgeons came from outside the region).

The present study shows a significant difference in the diffusion of laparoscopic surgery in different areas of Italy. While in the northern part of the country L.C. has become the treatment of choice for gallbladder lithiasis, this is not yet the case in the south of Italy: Only 9% of northern surgeons did not start to perform L.C. after attending the course, compared to an astonishing 66% of surgeons from the south. In some cases the surgeons did not start because of the difficulty in obtaining the laparoscopic equipment, mainly because of a shortage of funding by the NHS or because of shortage of distribution by the companies. (This was sometimes the case in 1991.) But in the vast majority of cases surgeons from the south of Italy faced heavy hostility to laparoscopic surgery from the chiefs of departments.

This fact was particularly true in 1991 and 1992 but recently seems to be diminishing.

Particular reference should also be made to the starting time of a laparoscopic program by surgeons who took part in the courses: 18 surgeons performed their first L.C. 12 months or more after the course.

Whatever the limits of Torino L.C. workshops, the clinical results reported by our "disciples" are most satisfying. The overall results are comparable to the best multicentric series in the literature [2, 7]. This is particularly important when we consider the influence of each surgeon's learning curve in the present series: 42% of surgeons had performed less than 20 L.C.s and only 7 (14%) had performed more than 100 L.C.s. As

the main goal of the courses was to help surgeons in performing L.C. safely, we believe that we have achieved our goal.

Nevertheless, we actually believe that the emergency phase is over and that the moment has come to abandon the organization of 2-3-day courses. Laparoscopy should be completely integrated in every residency surgical program [3]. This has been the case at the University of Turin from 1991 for general surgery and from 1988 for gynecological surgery. The young surgeons are trained in laparoscopic surgery as a part of their clinical and practical apprenticeship.

Concerning practicing surgeons not yet trained in laparoscopic surgery, they should attend postgraduate courses on laparoscopic surgery structured for a minimum period of 6 months. At the University of Turin we have organized an academic diploma on laparoscopic surgery: 15 surgeons will be trained over a 6-months period, spending 3-4 days per month with an experienced laparoscopic surgeon and being gradually trained as cameraman, assistant, and finally performing their own L.C. under supervision.

References

1. Cuschieri A (1993) Reflections on surgical training. *Surg Endosc* 7: 73-74
2. Cuschieri A, Dubois F, Mouiel J, Mouret P, Becker H, Buess G, Trede M, Troidl H (1991) The European experience with laparoscopic cholecystectomy. *Am J Surg* 161: 385-387
3. Deziel D, Milikan K, Staren E, Doolas A, Economou S (1993) The impact of laparoscopic cholecystectomy on the operative experience of surgical residents. *Surg Endosc* 7: 17-21
4. Forde KA (1993) Endosurgical training methods: is it surgical training that is out of control? *Surg Endosc* 7: 71-72
5. Hinder RA (1992) Dilemmas and challenges. *Surg Laparosc Endosc* 2: 277-278
6. Satava RM, Reed WP (1993) Proctors, preceptors and laparoscopic surgery: the role of "proctor" in the surgical credentialing process. *Surg Endosc* 7: 283-284
7. The Southern Surgeons Club (1991) A prospective analysis of 1518 laparoscopic cholecystectomies. *N Engl J Med* 324: 1073-1077
8. Zucker KA, Bailey RW, Scott MG, Scovil W, Imbembo AL (1993) Training for laparoscopic surgery. *World J Surg* 17: 3-7