Laparoscopy and acute appendicitis

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Appendectomy remains a perplexing operation. Although it is one of the commonest abdominal operations, most of the accepted surgical tenets and practical wisdom about surgical procedures are completely violated in this procedure. In 20% of patients who undergo emergency operations for suspected appendicitis, the appendix is normal. The standard McBurney incision in the lower right quadrant is usually too small to permit manual or even visual exploration of the abdominal cavity and pelvis. In a society in which over one quarter of the population is significantly obese, the 2.5-cm long incision for appendectomy is a surgical myth. In an obese young woman it is extremely difficult to properly evaluate the ovaries and fallopian tubes through this incision. Once the right lower quadrant incision is made, it is surgical dogma that the appendix is removed whether it is healthy or not. In about 20% of patients with appendicitis, the diagnosis is missed initially, which increases the risk of postoperative complications such as ileus, abscess, adhesions and infertility. Clearly there is room for improvement in the surgical approach to patients with suspected appendicitis.

Much of the recent literature about the management of abdominal pain and suspected appendicitis has been related to diagnostic imaging. A recent article concluded that routine computed tomography in patients who present with suspected appendicitis can improve patient care and reduce the total use of hospital resources.[1] Although every patient with acute abdominal pain merits at least consideration of a diagnosis of appendicitis, I am unconvinced that every patient in Canada seen in the Emergency Department will have the opportunity to undergo a rapid appendiceal CT.

The introduction of laparoscopic techniques has provided general surgeons with a new method of diagnosis for patients suspected of having acute appendicitis and has permitted a concurrent therapeutic procedure. Two reports have documented the feasibility and safety of laparoscopic appendectomy.[2,3] However, the proposed advantages of laparoscopic compared with open appendectomy have seemed less compelling than laparoscopic cholecystectomy, and many surgeons still favour open repair because they believe that the overall morbidity is primarily a function of the degree of appendicitis (rather than the operative approach). Some surgeons continue to have difficulty mastering surgery in a remote 2-dimensional world requiring heads-up and video eye–hand coordination without tactile feedback, and the limitations of current laparoscopic instruments mandate considerable practice to master certain skills. Evaluation of cost factors including operating room time and the use of disposable instruments is pertinent.[4] Finally, during laparoscopy, diagnostic difficulties may occur in the initial phase of acute appendicitis with only acute mucosal involvement in an apparently normal appendix.

The article in this issue by Temple and her colleagues (page 377) confirms that there are no significant differences in intra-abdominal abscess rates and that complication rates are generally low for laparoscopic appendectomy. There are, however, few wound infections and the return to normal activity is significantly earlier with laparoscopic appendectomy at the minimum price of a few minutes longer operating room time. The authors warn us that the results of their meta-analysis may involve early experience with the laparoscopic technique and that future trials should be performed by those who are experienced laparoscopists to avoid the bias of the learning curve on surgical outcome and operating room time.

The unbridled enthusiasm of the news media and some surgeons for laparoscopic procedures makes some members of the lay public demand this form of surgery. Laparoscopy should never replace good surgical judgement. Diagnostic laparoscopy in patients with suspected appendicitis can avoid unnecessary laparotomies, and I

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believe it remains an important tool, particularly in young women and obese patients. Surgical techniques including Endoloop sutures and clips instead of the repeated and expensive use of stapling devices can reduce cost of laparoscopic appendectomy. With improvement in laparoscopic techniques and instrumentation, including the introduction of micro-laparoscopy, it is likely that laparoscopy will become an integral part of the evaluation and treatment of patients with clinical symptoms of appendicitis. Although Temple and colleagues state that the definitive study comparing the laparoscopic option with open appendectomy remains to be performed, I believe in selected patients it may be already the procedure of choice.

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Complete surgical training

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In their paper in this issue (page 353) Drs. Sidhu and Walker document the continuity of preoperative, operative and postoperative care provided to patients by general surgery residents in a single university teaching program. They report that, although in 80% of cases studied a resident was the primary surgeon, in only 40% of cases was complete continuity of care provided by the same resident. In an ambulatory care setting, only 20% of patients were assessed by a resident preoperatively (before entering the operating room). Fortunately, in emergency cases at a higher intensity hospital, 83% of patients were seen preoperatively by a resident.

Sidhu and Walker should be commended for undertaking this study. It is a matter of concern that such a low percentage of patients are afforded complete care by their "operating resident." It is disappointing that residents are not being exposed to the totality of surgical patient care, including judgement issues such as when to operate, communication issues such as obtaining consent, and quality issues that can be assessed only by postoperative follow-up.

Today surgeons are faced with many challenges. Restructuring has led to the dissemination of individual practice, increasing the workload and the travel time. The ever-increasing workload, as the population of general surgical patients increases and the relative number of general surgeons decreases, has led to less time for teaching. Changing practice patterns, including the move to outpatient surgery and same-day admission has resulted in increased preoperative assessment by the consultant surgeon with less opportunity for residents to play a part. As our personal practices have to change, so must our practices of teaching residents the skills required for surgical practice.

A resident's time is divided among many duties. Most programs have achieved good consistency of resident attendance in the operating room. This is based largly on the residents' desire to be in the operating room (as opposed to the clinic and other places within the hospital) and in their drive to improve their technical skills. Surgical consultants have come to enjoy good surgical assistance from the residents and to encourage their attendance. Residents' presence in the operating room is also fostered by rotation scheduling and surgical team structure, whereby a single resident will cover a number of surgeons, all of whom expect the resident to attend their cases. Thus, they are too busy to

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