

ARTICLE

Ethical considerations in laparoscopic surgery

KAUSHIK BHATTACHARYA, A NEELA CATHRINE

Assistant Professors, Department of Surgery, Sri Ramachandra Medical College and Research Institute, Chennai 600116, India.
e-mail: kaushik_srmc@rediffmail.com

Laparoscopic or 'minimally invasive' surgery has become the gold standard procedure in cholecystectomy, fundoplication and adrenalectomy and has major advantages in appendicectomy and for diagnosis of pain/mass of unknown origin in the abdomen. However, because of its mass acceptance by patients and surgeons, there are some ethical issues which need to be addressed. 'When an innovative treatment is introduced into clinical practice, rigorous testing is mandatory for the protection of individual patients and the just use of limited resources. This holds true with greater force in the light of evidence that many innovations show no advantage over existing treatments when they are subjected to properly controlled study' (1).

Informed consent for laparoscopic surgery

Consent for an operation usually requires an explanation of the indications, principles and risk of the procedure, as well as the consequences of not undergoing the proposed surgery and the discussion of alternative treatments. In a study by postal questionnaire to 207 surgeons who were asked to estimate how often they mentioned the nine given complications (bile duct injury, retained calculi, port site hernia, shoulder tip pain, conversion to open cholecystectomy, wound infection, respiratory complications, thromboembolic complications and death) to patients while obtaining consent for laparoscopic cholecystectomy, it was seen that on an average, only 3 of the 9 complications were mentioned to the patients more than 50% of the time. Twenty-five per cent never discussed bile duct injury with patients and 22% mentioned it only rarely. Fifty-nine per cent rarely or never informed the patient of the risk of retained calculi, 30% never mentioned shoulder tip pain, 70% never mentioned port site hernia and 90% never or rarely mentioned operative mortality (2). This study highlights the fact that patients need to be better informed before undergoing minimally invasive procedures, particularly about potential risks. Most surgeons do not provide written information to the patient about the procedure and conversion rate.

Learning curve of laparoscopic procedures

Laparoscopic surgery has a learning curve during which

the risk of complications are relatively higher, with longer time for the procedure resulting in increased cost. On a study on 56 specialist registrars in general surgery on the use and teaching of laparoscopic appendicectomy, it was seen that 43% had performed a laparoscopic appendicectomy (with an average of 2.5 supervised by a consultant and 7.5 with a more junior assistant). Of these, 92% had been taught by a consultant, but only 31% of the consultants for whom they were currently working had done appendicectomy laparoscopically, and laparoscopic appendicectomy was only being performed in 14% of the specialist registrars' current firm. The study concluded that dedicated consultant time for emergencies would facilitate teaching of laparoscopic appendicectomy but theatre time, costs of disposable instruments, and the inexperience of many consultants in this operation are likely to continue limiting its practice (3).

It was seen that a greater learning curve was required by consultants—who seldom acknowledged it. There was also competition between fellow consultants regarding conversion rate, time required for completion of the procedure and discharge from hospital. All these personal issues and egos sometimes put the patients' lives into jeopardy.

Indications for laparoscopic surgery

With the advent of laparoscopic procedures which lead to less pain, small scars, early discharge and return to work, and fewer analgesics, indications of selection of patients undergoing such procedures have been expanded, which is of questionable ethics. Causes of most patients undergoing laparoscopic cholecystectomy for asymptomatic gallstones need scrutiny. The natural history of asymptomatic gallstones suggests that a large number of affected individuals will remain asymptomatic through life and only 1%–4% per year will develop symptoms or complications of gallstone disease. Thus, ultrasound-detected coincidental gallstones require only watchful waiting; surgery is generally not recommended (4). However, surgeons rarely show patience whenever a patient has an ultrasound report of cholelithiasis. This is now common because of master health check-ups conducted at various hospitals. The whole concept of

laparoscopic surgery requires a 'relook' in such conditions.

Disposable laparoscopic instruments!

All laparoscopic surgeries demand the use of disposable instruments but their exorbitant cost in developing countries such as India leads to the reuse of these instruments until they 'wear out'. Another issue which requires considerable attention is the sterilisation of such instruments. In a study from the US hospitals where more than 466 laparoscopic cholecystectomies were performed, it was found that they did not know the logistics of reuse or its costs and risks. The survey also recorded that the reusable laparoscopic instruments were sterilised 'the same way everytime'. Most of the surgeons, however, did indicate that a simple comparison of the purchase price of reusable instruments with that of disposable instruments was not adequate to make an informed judgement about which instruments would be the most cost-effective (5).

It is necessary to have some guidelines and protocols for reuse of laparoscopic instruments and their proper sterilisation and maintenance.

Ethics of innovative surgery

In a survey of 59 articles from 527 issues of various American journals describing innovative surgery, the corresponding authors were sent an anonymous questionnaire which elicited a 35% overall response rate. Fourteen authors confirmed their work as research and yet only 6 had sought clearance from the Institution Regulatory Board (IRB). Most authors (15 out of 21) did not submit their protocol to the IRB. The study highlighted that surgeons appeared to be largely unaware of regulatory definitions of research involving human subjects. Thus, the current system of formal definitions, ethical theories and voluntary professional guidelines to protect patients from unwittingly becoming subjects of research appears to be inadequate to meet the challenges of surgical innovation (6).

Laparoscopic surgery in malignancy—ethical issues

Laparoscopy is now considered an effective tool for diagnosis and staging of malignancies, especially when combined with laparoscopic ultrasonography. Laparoscopic evaluation of the abdomen can be performed in as little as 10–15 minutes, and such evaluation eliminates the need for laparotomy in many patients. However, the most important ethical issue in these cases is the incidence of port-site metastases (7). The smoke created by coagulation during laparoscopic surgery contains whole cells which is carried as an aerosol

during pneumoperitoneum and could be a mechanism for tumour implantation (8). Therefore, intentional coagulation of malignant tissue should be avoided.

Procedures such as laparoscopic colectomy for colorectal carcinoma require prospective trials before they are made a 'gold standard' procedure. Similarly, the follow up of these cases is also very short and though most laparoscopic surgeons claim exciting prospects in many types of cancers, long-term follow up is required before claiming a laparoscopic procedure as safe and effective alternative to an open procedure (9).

Conversion from laparoscopic to open—'Shame' !

Conversion to laparotomy in laparoscopic surgery has a connotation of 'failure' especially when surgeons want to maintain their series for publication or want to compete with peers. In a study on 60 surgeons who experienced bile duct injury after laparoscopic cholecystectomy, 36% of surgeons described the incident as 'unfortunate' but an expected part of their career, 15% stated that it was an unfortunate incident that had changed their practice such as to consider a much lower threshold to convert to open cholecystectomy and to avoid operating at night or when fatigued; 18% felt that the injury had not altered their career (10). The most interesting part of the study was that only 43% of the surgeons believed that bile duct injuries are always a surgical error! However, these surgeons urge the profession to abandon the culture of 'shame' associated with conversion and to consider conversion as sound clinical judgement.

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