Laparoscopic versus open repair of inguinal hernia

Paper should have put more emphasis on benefits of laparoscopic repair

EDITOR,—Kate Lawrence and colleagues report excellent early results of their trial comparing laparoscopic with open hernia repair and show that patients prefer laparoscopic repair.¹ With only 125 subjects, they found significant benefits in terms of pain scores and quality of life assessments in the early postoperative period after laparoscopic repair. They rightly conclude, however, that the single important criterion for success in hernia repair is the recurrence rate and that a far larger sample will have to be followed up for far longer for this to be determined.

It is a pity that the paper and the paragraph on the "This week in *BMJ*" page place greater emphasis on the increase in minor complications with this form of surgery than on the benefits, even though only one of the seven complications in the patients who had laparoscopic repair (early recurrence of a direct hernia) is clinically important. After all, the patients preferred the laparoscopic operation despite their haematomas and seromas. Furthermore, we are not told whether the patient with early recurrence differed from the others in any way, or the level of the operator's experience; this is important information even though the operator's experience did not affect the overall rate of complications. Incidentally, the authors seem to have "lost" one complication: they write that there were two, three, and one complication for the teams with the lowest, intermediate, and highest experience respectively, whereas they also say that there were seven complications in total.

Costs are notoriously difficult to quantify. A

major difference between the two groups is the cost of an extra surgical registrar, but whether he or she is any more required for laparoscopic than for open surgery is debatable. Also, operating time depends on the operator's experience and will fall as more patients are operated on. There are other ways of reducing costs. This trial was started a few years ago, when the transabdominal preperitoneal approach was the standard operation. The extra-peritoneal approach is quicker, does not require expensive disposable stapling equipment, and has the added advantages of greater safety and permitting the use of local anaesthesia.² Furthermore, there is so little postoperative discomfort that the procedure can easily be done on a day case basis.

The debate concerning the modern management of inguinal hernia continues, and we urgently require more trials such as this and the Medical Research Council's current trial in Aberdeen³ to provide the answers.

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1 Lawrence K, McWhinnie D, Goodwin A, Doll H, Gordon A, Gray A, *et al.* Randomised controlled trial of laparoscopic versus open repair of inguinal hernia: early results. *BMJ* 1995;311:981-5. (14 October.)

2 Ornstein MH. Prospective trial comparing Lichtenstein with laparoscopic tension-free mesh repair of inguinal hernia. *Br J Surg* 1995;82:1700.

3 Baxter JN, O'Dwyer P, Macintyre I, Grant A, Kennedy A, Donaldson C, *et al.* Put hernia option to controlled test. *Hospital Doctor* 1995 Sep 14:14.

Long term recurrence may be lower with laparoscopic repair

EDITOR,—In their study comparing laparoscopic with open repair of inguinal hernias Kate Lawrence and colleagues excluded 43% of patients considered for the trial.¹ This is a high proportion: in our study five patients (3%) seen during the trial fulfilled our exclusion criteria.²

More complications occurred in the group that had laparoscopy in the authors' study. The surgical technique used probably accounts for three of the complications reported. The 12×8 cm mesh is too small and will result in recurrences; a 15×10 cm mesh is now widely accepted for unilateral repairs. In addition, the surgeons interposed mesh between the inferior epigastric vessels and the abdominal wall, which is unnecessary for fixation and presumably led to another complication—namely, vessel injury.

Cord seromas or haematomas occur quite often but have no sequelae and do not inhibit return to work. As the authors postulate, the problem may be prevented by transection of the sac rather than full dissection of the sac from the cord. Modification of the surgical technique would therefore have avoided three complications, and the remaining four complications may not be clinically important.

The mean time for the laparoscopic operation (72 minutes) is slow compared with that taken by most surgeons who are experienced in laparoscopy. The last 20 procedures in our trial took a mean of 30 minutes, with reduced cost implications. Costs also included the cost of an assistant to hold the camera. This is increasingly being done by the scrub nurse. Clearly trainee surgeons assist to be trained, but their presence is not essential.

Recently we have repaired some irreducible hernias laparoscopically. A combination of external pressure and internal manipulation and dissection has enabled peroperative reduction and laparoscopic repair.

Finally, on questioning, the authors found that the patients were most worried about recurrence. Long term studies are not available, although indications are that recurrence rates will be 1% or less and that most recurrences will occur within a few months of the repair. Recurrence rates as high as those for open darned repair therefore seem unlikely. Roughly half of recurrences after conventional open repair occur within two years.

The comparison that needs to be made is between a laparoscopically placed mesh and an open mesh repair under local anaesthesia. A randomised prospective trial is under way at Whipps Cross and the North Middlesex Hospitals.

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Surgeons in study were inexperienced at laparoscopic repair

EDITOR,—Kate Lawrence and colleagues conclude that more complications occur after laparoscopic than after open repair of inguinal hernias and that costs are higher.¹ There are, however, several flaws in their study.

At the start of the study the most experienced laparoscopic surgeon had performed only 20 repairs and the others had performed fewer, though the number is not stated. It is questionable whether comparing the laparoscopic repairs of surgeons on the steep part of the learning curve (which would include the surgeon who had done 20 repairs) with their experience of open hernia repair, which no doubt amounted to many hundreds of cases, is a fair evaluation of the technique.

The authors' theatre staffing perhaps reflects the approach of affluent teaching hospitals to both medical and nursing staff, with both a senior theatre nurse and a surgical registrar being present in addition to the operating surgeon. In Colchester, and no doubt many other district general hospitals, laparoscopic hernia repair is performed without any assistant other than the scrub nurse, who is usually in E or F grade.

In two cases the procedure was converted to open repair because of incarcerated hernias. This reflects the relatively small individual experience of each surgeon: in my experience of more than 400 laparoscopic hernia repairs, conversion to open surgery has never been necessary and all incarcerated hernias have been reduced laparoscopically.

With equivalent operative experience (that is, hundreds of repairs), operating time for laparoscopic repair is similar to, or only marginally longer than, that for open repair of a unilateral

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hernia and usually shorter for bilateral or recurrent hernia.

The authors' data on return to work are depressing, with long median times in both the group that had laparoscopic repair (22 days) and the group that had open repair (28 days), and may reflect undue caution on the part of either the patients or their general practitioners. In my experience, with clear and emphatic advice that it is safe to do so sedentary workers return to work in one week and those who do more physical work in two.

Two sentences in the opening paragraph of the section on the outcome measures suggest an initial bias against laparoscopic repair. It seems highly optimistic to have assumed a 0.5% complication rate for open repair (with no supporting data) and highly pessimistic with regard to laparoscopic repair to choose a sample size that would show only a complication rate of 18% or greater.

This study falls into the trap of comparing inexperienced laparoscopic hernia repair with experienced open hernia repair.

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Lichtenstein technique should be used

EDITOR,—Since the early 1960s a technique of inguinal hernia repair, the Lichtenstein repair, has been available that precludes the use and inherent risks of general anaesthesia. The true Lichtenstein technique is tailor made to suit most patients regardless of their anaesthetic risk, is cost effective, and gives immediate postoperative mobility and reduced postoperative morbidity and pain; patients return to work or normal function after on average 2 to 10 days. In addition, the Lichtenstein repair shows long term recurrence rates of 0.13% at five years.¹ Given these factors, it is alarming that in Kate Lawrence and colleagues' study of only 125 men, in all of whom general anaesthesia was used, the Maloney darn was taken as the current standard surgical technique,² with, we presume, standard recurrence rates of 10-15% at three years.³

The statement that open herniorrhaphy rarely causes severe pain or morbidity is at variance with popular belief and the authors' results, which show that 40-50% of patients who had open repair had not returned to normal function by four weeks. Indeed, when standard techniques are used it is common for patients to return to normal function only after six weeks.⁴

The absence of local data surely reflects auditing techniques and is not an excuse to assume a short term complication rate of 0.5%. It is disconcerting that 1% of patients crossed from laparoscopic to open repair. Moreover, 12% of patients who had laparoscopic repair suffered important early complications, with 5% requiring admission.

Despite these findings the authors propose to undertake longer term, larger studies of laparoscopic techniques, hoping that complication rates decrease as part of a learning curve. They conclude that sample sizes of thousands are needed to detect differences in recurrence rates. Such sample sizes have already been studied: the short and long term benefits of the Lichtenstein technique of hernia repair to patients are conclusive.⁵

As first wave fundholders, we offer Lichtenstein repairs to patients in a primary health care setting. A clinical audit and an audit of patients' perceptions are being undertaken, and we have had a 100% response rate to our anonymised questionnaires. Results for one year will be available in June. In our opinion, further assessment of laparoscopic

herniorrhaphy is unnecessary and the use of archaic standard repairs inappropriate when modern, safer, and more effective techniques are readily available—now in a primary health care setting.

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Hernia repair should be individualised to the patient

EDITOR,—The value of Kate Lawrence and colleagues' study comparing laparoscopic with open repair of inguinal hernia lies in the outcome measures chosen and the analysis of cost effectiveness.¹ The results and conclusions drawn are far more meaningful than those drawn from any other comparison between open and laparoscopic hernia repair. Although in their randomised trials of laparoscopic versus open repair Payne *et al* and Millikan *et al* showed an increased cost for laparoscopic repair of \$500 (£330) and \$4500 (£3000) respectively, the economic analysis was not nearly as detailed—hence the wide difference in estimated costs.^{2,3}

Other important data in the authors' study are the demographic details of the patients, including the type of job undertaken and social class. A recent study in Seattle, United States, compared two groups of patients, one of which received workers' compensation while the other had commercial insurance. For the patients with commercial insurance the median duration of postoperative pain was 7.5 days and the median number of days off work was 8.5 days. In contrast, the patients with workers' compensation had pain for 27 days postoperatively and did not return to work for 36.5 days.⁴ Thus selection biases may affect results, and motivation affects clinical outcome. Perceived pain and the ability to return to activity are influenced more by socioeconomic factors than by the procedure or the anatomy involved.

However severe postoperative pain may be, patients should be given sufficient analgesia to permit rehabilitation and recovery. Balanced analgesia, with a combination of non-steroidal anti-inflammatory drugs, opioids, and local anaesthesia (as given in Lawrence and colleagues' study), acts at different points on pain pathways and so maximises analgesia and minimises side effects. Thus pain should not be a major factor hindering recovery in any patient.

Lawrence and colleagues' study began in 1992, before the popularisation of the Lichtenstein operation in Britain. Since then two non-randomised studies in Britain have indicated potential benefits of this procedure compared with other open techniques, such as the Maloney darn.^{5,6} The Lichtenstein operation can reduce costs further since it can be performed under local anaesthesia by a junior surgeon on a day case basis in suitable patients.

Finally, Rutkow has suggested five outcome measures that should be incorporated into any evaluation of hernia surgery: technical difficulty, complication rates, overall rehabilitation, recur-

rence rates, and socioeconomic factors (notably cost benefit and cost effectiveness). To some degree hernia repair needs to be individualised to various clinical, social, and economic situations.

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- 1 Lawrence K, McWhinnie D, Goodwin A, Doll H, Gordon A, Gray A, *et al.* Randomised controlled trial of laparoscopic versus open repair of inguinal hernia: early results. *BMJ* 1995;311:981-5. (14 October.)
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Provision of palliative care is suboptimal

EDITOR,—As a palliative physician, I found it upsetting to read Betty Bridger's account of the medical care given to her husband during the last few days of his life.¹ The care was inappropriate and inadequate and resulted in an agonising and painful death, which Bridger cannot eradicate from her mind.

Bridger mentions two means by which such a situation might be averted in the future. She urges that families of terminally ill patients with cancer should be given telephone numbers for emergency care that is available round the clock and that surgeries should have a list of patients who are seriously ill and are at risk. Several lessons can be learnt from this case.

Firstly, patients with a serious illness can deteriorate rapidly, thus confounding any well planned strategy of treatment. Secondly, late referral to palliative care services is all too common and may be due to denial on the part of doctors or relatives. The author says that she had not thought it necessary to explore palliative treatment and help as her husband had managed so well up to that weekend. In retrospect it is easy to say what could have been done better, but it should have been the responsibility of at least one of the doctors or other professionals to ensure that the possibility of palliative care was explored earlier. This would have helped both Bridger and her husband to come to terms with his illness and to make plans for such a situation as arose, and it would have helped Bridger to prepare for her bereavement. Thirdly, the education of all doctors in the basics of palliative care, including communication and listening skills, is still far short of optimal. Fourthly, it is regrettable that patients with chronic illnesses may need to be admitted after hours to hospitals with which they are not familiar. In this case it led to the patient not being admitted at all.

Finally, as doctors, we should recognise when we are out of our depth and should not be afraid to admit this and ask for help.

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- 1 Bridger B. "Quiet consummation have." *BMJ* 1995;311:882. (30 September.)