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Laparoscopy as a day-case procedure – the patient's view

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The acceptability to patients of laparoscopy and laparoscopic sterilization as day-case procedures and the occurrence of minor complications were evaluated by prospective questionnaire. One hundred and eight questionnaires were returned from 113 women who had a diagnostic laparoscopy and 34 questionnaires were returned from 37 women who were sterilized (95% response). Eight patients were admitted overnight. All except three women (98%) were pleased to be treated as a day case. The main reasons cited in appreciation of day case treatment were the psychological benefit of improved recovery, home comforts, convenience and easier domestic organization. Minor complications were common, of which the most significant were abdominal and shoulder pain. Despite these discomforts the majority of patients nevertheless appreciated being treated as a day case.

Key words: Laparoscopy, complications, day case, acceptability

Introduction

Recent changes in the pattern of delivery of healthcare have resulted in much greater numbers of patients being treated as day cases. As recently as 1989–9, the Audit Commission report 'A short cut to better services'[1] showed that, in the 54 district health authorities surveyed, the median performance of laparoscopies as day-case procedures was only 4.3% and the upper quartile was only 15.7%. Increasing the proportion of a procedure like laparoscopy being performed on a day-case basis has huge economic implications because it is very commonly performed and borders on the day-case/inpatient boundary rather than the day-case/outpatient boundary. However, 'better services' may imply cheaper services and not necessarily ones which are appreciated by patients as being of equal or superior quality. There is, surprisingly, little information available on the acceptability to the patient of day-case surgery. That related to all types of surgery suggests that it is popular[2–4], although reservations have been expressed after laparoscopic sterilization[5].

In recent years in the Birmingham and Midland Hospital for Women the majority of elective laparoscopies have been performed as day cases. The exceptions are those where the laparoscopy is planned as part of a treatment programme, where the patient is medically unfit, where no provision can be made for care at home with a responsible adult or where the distance from hospital (mainly referrals from other health regions) make travel on the same day impractical. This has resulted in 80% of laparoscopies for investigation or sterilization being suitable to be performed as day cases. The physiological upset associated with laparoscopy[6] makes it a challenging anaesthetic to provide good recovery and we set out to assess the side effects experienced and the patient acceptability of day-case treatment. The results were obtained as part of a randomized study of the effectiveness of oral premedication with ondansetron, metoclopramide or placebo in the prevention of postoperative nausea and vomiting[7].

Patients and methods

Following hospital ethical committee approval, written informed consent was obtained from 153 women scheduled for gynaecological laparoscopy for investigative purposes or for sterilization to be randomly allocated to receive as an oral premedication 1 h before surgery either ondansetron 4 mg, metoclopramide 10 mg or placebo. Each medication was coded and contained in identical capsules and hence the patient, nurse and investigator were unaware of which drug was administered. All women were premenopausal, had no serious concurrent medical condition and were of weight 45–75 kg. Women undergoing laparoscopy for suspected ectopic pregnancy, laparoscopic laser tubal surgery or who had a contraindication to the use of nonsteroidal anti-inflammatory drugs were excluded. Any patient with symptoms of gastrointestinal reflux was also excluded.

No other premedication was given and the patient walked from the ward to the anaesthetic room, where a standardized general anaesthetic was given by one or

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other of the consultant anaesthetist authors. Anaesthesia was induced iv with a dose of propofol sufficient to obtund the eyelash reflex, atropine 0.6 mg and fentanyl 1.5 μg kg^{-1}. Neuromuscular blockade was produced with vecuronium 0.08 mg kg^{-1} and a laryngeal mask was inserted into the pharynx. The lungs were ventilated to normocapnia with 66% nitrous oxide and enflurane 1% in oxygen. Before surgery commenced, diclofenac 100 mg was administered rectally. The laparoscopic procedure was undertaken in a standard fashion with the peritoneal cavity being inflated with carbon dioxide 2–3 l by one of several gynaecologists. Efforts were made to empty the peritoneal cavity of carbon dioxide at the end of the procedure. Residual neuromuscular blockade was antagonized with glycopyrronium 0.5 mg and neostigmine 2.5 mg. Patients were prescribed oral codydramol (paracetamol 1 g with dihydrocodeine 20 mg) or intramuscular pethidine 50–75 mg for pain and intramuscular metoclopramide 10 mg for nausea and vomiting. The drugs were administered by nursing staff according to routine ward practices.

Patients were asked directly if they had experienced any nausea or vomiting whilst in hospital. They were also given a questionnaire to take home which asked for the symptoms of nausea, vomiting, shoulder pain, abdominal pain, headache, sore throat, dizziness and tiredness in the first 48 h following laparoscopy to be categorized as none, mild or severe. The questionnaire asked whether the patient was pleased to be treated as a day case and whether there was any particular reason for their response. A stamped addressed envelope was supplied for the return of the questionnaire.

Patient data were compared by unpaired *t* test and the incidence of symptoms was compared by χ^2 analysis. $P < 0.05$ was considered significant.

Results

Three patients were withdrawn from the study because laparoscopy was not performed as had been anticipated. Patient data on the remaining 150 women are shown in Table 1 and there were no significant differences in the age, weight, duration of anaesthesia, time from the end of the procedure to first oral intake or until discharge home between those who underwent laparoscopy or those who were sterilized. Four patients who had diagnostic laparoscopy stayed in hospital overnight, as did four who were sterilized. The reasons for admission were: patient request (two occasions); pain and vomiting; drowsiness; pain; risk of infection; haematoma formation and distance from hospital.

Of the 113 women who had a diagnostic laparoscopy, 108 returned the questionnaire and 34 of the 37 who underwent laparoscopic sterilization returned the questionnaire. Only three women said that they would have preferred to stay in hospital overnight and the reasons given were: "sore and bruised'; 'two young children' and 'would have preferred morning operation'.

The percentage of patients who suffered from symptoms in the first 48 h after leaving hospital are shown in Table 3. There were no significant differences in the incidence of any symptom between those who were sterilized and those who were not. The most commonly occurring symptoms described as of severe intensity were: abdominal pain (23% and 32%); shoulder pain (26% and 18%) and tiredness (20% and 9%).

Table 1. Patient data

	Diagnostic Laparoscopy n = *113*	*Laparoscopic sterilization* n = *37*
Age (yr)	32.0 ± 6.8	34.7 ± 5.4
Weight (kg)	60.7 ± 8.7	62.7 ± 6.5
Duration of anaesthesia (min)	21.3 ± 5.9	19.9 ± 6.2
Time to first oral intake (h)	1.8 ± 1.4	2.5 ± 1.7
Time to discharge home (h)	5.3 ± 1.8	5.7 ± 1.6

The effect of the antiemetic premedication is discussed more fully elsewhere[7] and is given in outline here. Few patients suffered from severe emetic symptoms (nausea or vomiting) after leaving hospital (Table 3). The majority of patients who experienced nausea or vomiting did so either in the recovery room or during their return to the day-case ward. After leaving hospital, nine out of 49 patients who received ondansetron premedication were nauseated which was significantly fewer than those who received placebo where 22 out of 47 patients were nauseated ($P < 0.05$).

More patients who were sterilized than those who had diagnostic laparoscopy required pethidine for postoperative analgesia (Table 4). No further analgesia other than that given intraoperatively was needed in 55% of those having diagnostic laparoscopy and a further 20% only required oral codydramol.

Discussion

The most striking finding was that performing laparoscopy as a day-case procedure was popular with the patients. Ninety-eight per cent were pleased to be treated in this way which was a similar figure to a unit performing all types of surgery[4]. This was perhaps

Table 2. Reasons volunteered for being pleased to be treated as a day case

Home comfort	13
Better for children/ domestic organization	9
Convenience	9
Family support	5
Unnecessary to stay in hospital	3
Psychological benefit/ better recovery	25
Economic for NHS	3

Table 3. Incidence (%) of symptoms

Laparoscopy (n = 108)	*None*	*Mild*	*Severe*
Shoulder pain	17	57	26
Abdominal pain	10	67	23
Headache	73	26	1
Sore throat	41	50	9
Dizziness	58	39	3
Tiredness	13	67	20
Nausea	66	25	4
Vomiting	94	4	2
Laparoscopic sterilization (n = 34)	*None*	*Mild*	*Severe*
Shoulder pain	29	53	18
Abdominal pain	6	62	32
Headache	88	12	0
Sore throat	47	53	0
Dizziness	70	27	3
Tiredness	9	82	9
Nausea	65	26	9
Vomiting	91	6	3

Table 4. Percentage of patients who received postoperative analgesia in hospital

	Laparoscopy	*Laparoscopic sterilization*
Pethidine (± codydramol)	25	57
Codydramol	20	38
None	55	5

surprising in view of the findings of the authors that laparoscopy was associated with the highest incidence of pain and nausea and vomiting after surgery. In contrast Thomas and Hare[5] found that one third of women who had chosen day care for laparoscopic sterilization subsequently wished they had stayed in hospital longer. Their survey was undertaken 1–4 months postoperatively in contrast to ours, which was prospective and one would expect the wish to have stayed in hospital to be more pronounced when questioned within 48 h. Our high day-case acceptability was in spite of an appreciable incidence of severe abdominal and shoulder pain after returning home. The findings have highlighted that our management of these symptoms deserves further attention.

It was predictable that the needs of children and domestic organization were mentioned as reasons for being pleased to go home, because this was a group who were likely to have a young family and wanted to minimize separation from them. It was interesting that such a high proportion of patients volunteered that there was a psychological benefit encouraging better recovery. The economic saving to the National Health Service illustrated the heightened awareness of the public of the financial consequences of this method of treatment.

Our unplanned admission after laparoscopy of 5% did not compare well with 1% in other series covering all types of surgery[8–11]. It could be improved by organizing laparoscopic procedures to be performed earlier in the day, allowing for a longer recuperative period for those who require it. We have the facility to admit patients relatively easily because all procedures are performed within a self-contained hospital and the two patients who wished to remain in hospital were able to be accommodated. Whilst this may not be the most economical method it does allow patients to be cared for according to their individual needs, and in their eyes receive a better quality of service.

Knowledge of the incidence of symptoms, such as sore throat, dizziness and tiredness, can help the gynaecologist and anaesthetist reassure the patient what to expect after laparoscopy. Tiredness is likely to be due to the hormonal stress response to laparoscopy[6].

Pain in the first few hours after laparoscopic sterilization is a problem and there has been a recent suggestion that the topical application of bupivacaine to the fallopian tubes is beneficial[12]. It has been commented on previously[13] that pain at the time of discharge from hospital was similar whether the patient has had sterilization or diagnostic laparoscopy and we were able to confirm that there were no significant differences on return home.

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