Original article

'One-stop' inguinal hernia surgery – day-case referral, diagnosis and treatment

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Background: Patients with unilateral inguinal hernias are conventionally seen at an out-patient appointment before being placed on a waiting list for surgery. Many patients are also required to attend a pre-assessment clinic prior to admission.

Aim: To establish whether patients fit for day surgery inguinal hernia repair could be assessed and treated at a single hospital appointment.

Patients and Methods: Patients referred with unilateral inguinal hernias were sent an information sheet and health questionnaire by post. General practitioners were asked to help patients complete the medical details. Patients suitable for day surgery were sent a single appointment for assessment and treatment by an open, tension-free Lichtenstein mesh repair.

Results: Ninety-eight patients were sent an appointment for 'one-stop' inguinal hernia treatment. Ninety-two patients (93.5%) underwent inguinal hernia repair and were discharged on the same day without complication.

Conclusions: Patients with unilateral primary inguinal hernias who are under 70 years old and ASA grade I or II can be seen, assessed and treated on the same day. 'One-stop' inguinal hernia surgery reduces the number of patient visits to the hospital and could be expanded to incorporate many more hernia repairs and other day case procedures.

Key words: Inguinal hernia – Open mesh repair – Day surgery – 'One-stop'

Patients requiring an inguinal hernia repair are conventionally referred to a general surgeon for assessment in out-patients. Surgery is usually performed as a day-case procedure but, prior to surgery, the patient may be required to attend a pre-assessment clinic. This second visit has been shown to reduce the number of operations cancelled on the day of surgery either due to co-morbidity or poor communication between patient and doctor.¹ This system of assessment requires the patient to attend hospital on three

separate occasions. Patient convenience and hospital productivity may be increased and waiting times reduced if unnecessary visits are avoided.

The aim of this study was to determine whether patients fit for day surgery with unilateral inguinal hernias could be assessed and treated at a single hospital visit. We propose a protocol for 'one-stop' day surgery and present our results using this protocol for 'one-stop' inguinal hernia repairs.

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Patients and Methods

Over a 2-year period, patients with unilateral inguinal hernias who were referred by general practitioners to the Dreadnought Seamen's Unit based at St Thomas' Hospital were considered for this study. A consultant surgeon (SA) reviewed these consecutive referrals and, if no clear contra-indication to day surgery was included, the referral was passed directly to the day surgery unit. On referral, none of the general practitioners was aware of our intention to treat on a 'one-stop' basis.

The patients selected for the study were sent a letter detailing the proposed treatment plan including an information sheet about inguinal hernia surgery and a health questionnaire (available from author). The patient's general practitioner was asked to record the patient's pulse and blood pressure on the questionnaire and include an ECG if the patient was over 50 years old. Any additional investigations deemed relevant by the GP were also included.

On receipt of the health questionnaire, an assessment was made by the day-surgery pre-assessment nurse practitioner. Day-surgery general anaesthetic guidelines were adhered to as per standard hospital protocol. Additional information was sought from the patient by telephone and complicating factors were discussed with a designated consultant anaesthetist.

Patients deemed unsuitable for day-case surgery were sent an appointment to attend for an out-patient visit.

Patients fulfilling the criteria for day surgery were sent a single date to attend for both assessment by the operating surgeon and definitive surgery. At assessment, the patient had an opportunity to discuss the procedure with the surgeon and issues arising from the information sheet sent to the patient were addressed. No reduction in surgical caseload was made and adequate time for this consultation was available.

Inguinal hernia repair was performed under a general or local anaesthetic by a consultant or specialist registrar using an open, tension-free Lichtenstein mesh repair.

Results

We included 110 patients in this study. An early selection of these patients was made on the basis of the referral letter. All of these patients were referred by GPs for consideration for primary unilateral inguinal hernia repair and no contra-indication to day surgery was included in the referral. Postal questionnaires sent to this group of patients were completed and returned to the day-surgery unit. Absent information required was sought by telephone from the patients and GPs by the day-surgery nurse practitioner (RM-T).

Twelve patients were found at postal pre-assessment to be unsuitable for day surgery. Five of these patients had already had their hernia repaired. Day-case surgery was precluded in two patients with ischaemic heart disease and hypertension and two with COPD. Two patients had alcoholic liver disease and were assessed in out-patients prior to surgery. Finally, one patient with a body mass index (BMI) of 44 did not meet day-surgery criteria.

Ninety-eight patients were found to be suitable for day surgery and were sent a date for surgery. All of these patients were men aged between 19 and 76 years (mean age, 49.5 ± 14.5 years; mean BMI, 24 ± 6.4). All of these patients were ASA grade I or II.

One patient failed to attend for surgery and four other operations were cancelled on the day of surgery. Two patients were found to have bilateral inguinal hernias and were recommended to undergo in-patient repair. One patient did not have a demonstrable hernia. Only one patient was cancelled on medical grounds as he was deemed unfit for surgery due to uncontrolled hypertension.

One patient underwent surgery and was admitted to hospital postoperatively in acute urinary retention. He was discharged the following day.

Two patients had their inguinal hernia repaired under local anaesthetic and the remaining 90 patients received a general anaesthetic. A choice of general or local anaesthetic was usually offered to all patients except those in whom general anaesthetic was contra-indicated.

Hence, of the 98 patients found suitable for day surgery, 92 (93.9%) underwent the procedure with just one hospital attendance and were discharged home the same day without complication.

Discussion

Inguinal hernia surgery forms a substantial proportion of the general surgical workload. It is now widely accepted that the tension-free Lichtenstein mesh technique has a low associated morbidity and recurrence rate and is the technique of choice for the open repair of unilateral inguinal hernias.²

Inguinal hernia repair is ideally suited to day surgery and increasing numbers of procedures are being performed in this setting.³ This reduces the inconvenience and risk to the patient associated with in-patient hospital stay and also substantially reduces the cost associated with the surgery.⁴

Pre-assessment of patients requiring surgery has been shown to increase the efficacy of the surgical unit.¹ It is an opportunity to assess the patient's suitability for surgery and to address patient anxieties. This reduces the number of operations cancelled for medical or psychosocial reasons.

Specialist nurses have been shown to be at least as effective as junior doctors at pre-assessing patients and, as such, many hospitals now use a nurse for this purpose.⁵ Pre-assessment by telephone has also been shown to be effective.⁶

Using all of this information, there is already substantial evidence that 'one-stop' hernia repair is a feasible and cost-effective system for the management of uncomplicated hernias. The concept of 'one-stop' surgery for minor procedures is not new although has not previously been described for hernia repair.⁷

We have shown that primary unilateral inguinal hernia repair in patients under 70 years of age and ASA grade I or II can be managed with a 'one-stop' system without significant cancellation rates or complications. Increased use of local anaesthetic repair may facilitate the greater use of 'one-stop' day surgery. Raising awareness amongst GPs and hospital clinicians could also improve this service as some patients may require additional help to complete the postal health questionnaire.

Conclusion

'One-stop' day surgery could be expanded to incorporate

many more hernia repairs and other day-case procedures.

Acknowledgement

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