ELSEVIER

J. of Ambulatory Surgery 147 (2003) 147–149

Ambulatory Surgery

www.elsevier.com/locate/ambsur

Should scrotal operations be performed as day cases

E.O. Pearse *, M.P.J. Wright, R. Persad

Department of Urology, University of Bristol, Bristol Royal Infirmary, Upper Maudlin Street, Bristol BS2 8HW, UK

Received 1 February 2003; accepted 30 July 2003

Abstract

Day case surgery in urology and in particular scrotal surgery has been shown to have three times the admission rate recommended by the Royal College of Surgeons in England (RCSE) for day case procedures. This questions whether it is appropriate to perform such surgery as day cases. We undertook an audit of scrotal operations performed on our day case unit in order to determine our admission rate. Our admission rate of 4.5% was comparable to the 3% admission rate recommended by the RCSE. The combination of careful patient selection, an experienced anaesthetist, supervised trainee surgeons and modern anaesthesia may have contributed to the more acceptable admission rate, which we found in our study. We also identified an increase in workload for primary care.
© 2003 Elsevier B.V. All rights reserved.

Keywords: Scrotal surgery; Day case surgery; Primary care

1. Introduction

With increasing pressure on inpatient beds, there is an incentive to expand the number of surgical procedures which are performed as day cases. Many of the benefits of day surgery are lost if the patient is admitted and the Royal College of Surgeons of England (RCSE) guidelines [1] suggest that the admission rate should be less than 3%. We were concerned that the only publication on urological day case procedures reported an admission rate of 10.6% for scrotal and testicular operations [2].

In this study, we undertook a retrospective audit of scrotal and testicular operations performed in our day case unit in order to determine whether it is appropriate to perform such operations as day cases.

2. Patients and methods

We identified 66 patients who underwent consecutive scrotal operations on the day surgery unit at our institution between June 1997 and July 1999. Information was obtained from theatre logs, patient medical records and the hospital information system. The procedures are listed in Table 1.

We noted patient characteristics (age and ASA grade), the grade of the operating surgeon and anaesthetist and the duration of the operations. The main outcome measure was the admission rate from the day surgery unit. We also determined the number of readmissions within 2 weeks of discharge from the day surgery unit.

In order to determine whether our patients increased the burden on primary care, we contacted as many patients as possible by telephone. We asked them about any contacts with their general practitioner (GP) after their operations.

3. Results

Patients had a median age of 43 (range 17–77). Four patients were older than 70. Patients had an ASA grade of 1 or 2 and all were anaesthetised by a consultant. 59 of the 66 operations (89%) were performed by trainees supervised by a consultant.

There were three admissions from the day surgery unit (Table 2) resulting in an admission rate of 4.5%.

* Corresponding author. Present address: 28 Elm Grove Road, Barnes, London SW13 0BT, UK. Tel.: +44-7780-860-507; fax: +44-20-7405-9955.

E-mail address: yemipearse@aol.com (E.O. Pearse).

0966-6532/03/$ - see front matter © 2003 Elsevier B.V. All rights reserved.
doi:10.1016/j.ambsur.2003.07.003

Table 1
Consecutive scrotal operations performed on the day surgery unit over a 2-year period

Hydrocoele plication	27
Epidydmal cyst excision	18
Orchidopexy	6
Orchidectomy	3
Insertion of testicular prosthesis	1
Hydrocoele plication and epididymal cyst excision	3
Hydrocoele plication and other (vasectomy/testicular biopsy)	3
Epididymal cyst excision and other (vasectomy/circumcision)	2
Recurrent hydrocoele plication	2
Ligation of varicocoele and closure patent processus	1
Total	66

None were for social reasons. Two patients had drains inserted after re-do surgery for recurrent hydrocoeles. The third was admitted after a lengthy orchidectomy and contralateral orchidopexy. The trainee and consultant admission rates were 3.4 and 14%, respectively. This difference was not significant ($P = 0.29$ Fisher's exact test).

Three patients were readmitted within 2 weeks of discharge from the day surgery unit. One patient had a gastrointestinal bleed caused by non-steroidal anti-inflammatories. Two patients had infected haematomas, one following plication of a hydrocoele and the other following plication of a hydrocoele and excision of epididymal cyst. Neither patient had signs of an accumulating haematoma prior to discharge.

Fifty-eight patients (88%) were contacted by telephone. The remainder had moved with no forwarding address. Twenty-four of them (41%) consulted their GPs within 2 weeks of their operations. 19 patients saw their GPs once in clinic, three patients saw their GPs twice in clinic, one required a single home visit and one required three home visits: a total of 29 GP episodes, equivalent to a contact rate of 0.50 per patient. The reasons for and the outcomes of these consultations are given in Tables 3 and 4, respectively. Of note, 13 of 58 patients (22%) had assumed infections: 11 of them received oral antibiotics on the clinical suspicion of their GPs, however, a search through their laboratory records provided no microbiological evidence of infection. Two patients did require emergency readmission and their infections were successfully treated with intravenous antibiotics.

Table 3
Reported complications following day case scrotal surgery

Infection	13
Non-infective wound problems	5
Pain	1
Swelling	3
Constipation 2° to opiate analgesia	1
GI bleed 2° to NSAIDs	1
Total	24

Table 4
Outcomes of post-operative consultations with GPs

Reassurance	5
Antibiotic prescription	11
Treatment of non-infective wound problem	4
Sent to A&E, referred to on call, admitted (infected haematoma)	1
Emergency referral to on call, admitted (GI bleed 2° to NSAIDS)	1
Emergency referral to on call, urgent follow up (infection)	1
Expedite urology follow up (patient anxiety)	1

4. Discussion

The previously reported admission rate of 10.6% for testicular and scrotal operations [2] was considerably higher than for other specialties and exceeded the 3% admission rate recommended by the RCSE. Such a high admission rate questioned the suitability of such operations for day surgery, however, we were reassured to find an admission rate of 4.5%. Several factors may account for this difference.

The first is case selection. In the previous study, 19% of the admissions involved patients over 70-years-old or with an ASA grade of 3 and over. Although four of our patients (6%) were over 70, they had an ASA grade of 2 and none of them required admission. In the previous study, 11% of the admissions were for social reasons and 15% of patients requiring admission were judged retrospectively to have been unsuitable for day surgery care. The suitability of all our patients for day surgery was

Table 2
Details of patients admitted from the day surgery unit following scrotal surgery

	Patient 1	Patient 2	Patient 3
Age	18	53	26
ASA grade	1	1	1
Surgeon	Trainee with consultant	Trainee	Consultant
Procedure	Orchidectomy and orchidopexy	Re-do hydrocoele	Re-do hydrocoele
Length of procedure (min)	65	25	45
Indication for admission	Pain	Drain inserted	Drain inserted

assessed preoperatively and none were admitted for social reasons.

A second factor may be the level of experience of the anaesthetist. In the previous study, 45% of patients admitted following non-cystoscopic procedures were admitted for anaesthetic reasons such as nausea, vomiting and drowsiness. Over half of these patients were anaesthetised by trainee anaesthetists. In our study, only one patient out of 66 (1.5%) was admitted for analgesia following a lengthy orchidectomy and contralateral ochidopexy. All our patients were anaesthetised by a consultant anaesthetist. Our results suggest that the experience of the anaesthetist may be important. The developments in general anaesthetic agents since the previous study may also be a contributing factor.

A third factor may be the level of experience of the surgeon. The previous study reported a higher admission rate for operations performed by trainees. We found no significant difference between trainee and consultant admission rates. This may be because in our series all operations performed by trainees were supervised by a consultant surgeon. It is important to note that the relationship between surgical experience and admission rate is complex. The threshold for admission may either be raised or lowered by inexperience. Furthermore there is likely to be case selection bias as more complex procedures tend to be performed by more senior surgeons.

A lower admission rate can be achieved by discharging patients inappropriately from the day surgery unit. If this were the case, one would expect that patients who were inappropriately discharged from the unit would either be readmitted soon after discharge or increase the burden on primary care physicians. None of our patients were readmitted within 48 hours of their discharge from the day surgery unit. The problems encountered by the three patients who were readmitted within 2 weeks of discharge from the day surgery unit could not have been anticipated at the time of discharge: one patient had a gastrointestinal bleed caused by non-steroidal anti-inflammatories and the two patients who had infected haematomas had no signs of an accumulating haematoma prior to discharge.

We did find that a higher percentage of patients (41%) consulted their GPs in the 2 weeks after day case scrotal surgery than the published figure of 16.7% for general surgery [3]. Our average of 0.5 contacts per patient was also higher than the average of 0.39 contacts per patient previously published [4]. Many of these consultations were for minor complaints (see Table 3): in particular six patients needed reassurance only and two patients had complications which were not related to the surgical procedures (see Table 4).

We conclude that the combination of careful patient selection, an experienced anaesthetist, supervised trainee surgeons and modern anaesthesia may have contributed to the more acceptable admission rate for day case scrotal and testicular surgery which we found in our study. Our lower admission rate was not achieved by the inappropriate discharge of patients from the day surgery unit. An increase in workload for primary care may be anticipated.

References

[1] Commission on the Provision of Surgical services. Guidelines for day case surgery. A report of the working party of The Royal College of Surgeons of England, March 1992.

[2] Crew JP, Turner KJ, Millar J, Cranston DW. Is day case surgery in urology associated with high admission rates. Ann R Coll Surg Engl 1997;79:416–9.

[3] Kong KL, Child DL, Donovan IA, Nasmyth-Miller D. Demand on primary health care after day surgery. Ann R Coll Surg Engl 1997;79:291–5.

[4] Lewis C, Bryson J. Does day case surgery generate extra workload for primary and community health service staff. Ann R Coll Surg Engl 1998;80:200–2.