

Insertion of permanent pacemakers as a day case procedure

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Inserting permanent pacemakers and discharging the patients on the same day has been reported from the United States¹ and West Germany² and its safety shown. Reviews in the United Kingdom, however, have suggested that patients should remain in hospital for 24 hours after the procedure.³ We aimed to assess the feasibility and safety of management on a day case basis by a randomised controlled study, patients' reaction to such management, and the workload imposed on general practitioners in the month after the procedure.

Patients, methods, and results

Patients with suitable home circumstances and aged over 18 accepted for permanent pacing were randomised to either management on a day care basis or conventional management. Conventional management entailed at least one night as an inpatient after implantation of the pacemaker; day case patients were discharged by early evening on the day of the procedure. Standard implantation procedures were used, with follow up at one month.

Twenty one patients were randomised to day case management and 19 to conventional management. The mean age of each group was 74. Thirty seven patients received new pacemakers and three received new generators. The relative proportions of the different modes of pacing in the groups managed as day cases and conventionally were similar to the overall proportions at our centre over three months. Two of the day case patients could not be discharged on the day of the procedure, one because an appreciable haematoma developed one hour after implantation and one because her family refused to accept her home that day (despite prior agreement). The remaining 19 patients stayed in hospital for a mean of 5.7 hours, compared with 65.7 hours for the patients managed conventionally. Displacement of an electrode resulting in failure of pacing occurred in one patient in each group. An infection severe enough to require a repeat procedure occurred in one of the patients managed conventionally. There were 11 consultations

with a general practitioner in each group in the month after the procedure.

Using a 10 point scoring system, patients indicated how acceptable they had found the experience overall (0= maximally unacceptable, 10= maximally acceptable). The mean score was 9.0 for those managed conventionally and 8.7 for those managed as day cases. When asked whether they had considered themselves ready to go home at the time of discharge three of the day case patients said no compared with two of those managed conventionally. Four of those managed conventionally would have preferred to go home on the day of pacing and four of the day case patients would have preferred to stay.

There were no significant differences in the number of consultations with a general practitioner in the month after pacing; or in the scores from the questionnaire on acceptability, between the two groups (Mann-Whitney U test). To assess the significance of the complication rates the study would have required 2500 subjects.

Comment

Patients seemed to find implantation of a pacemaker on a day case basis as acceptable as conventional admission; there was no evidence that it had a higher rate of complications or that it imposed a greater burden on general practitioners in the ensuing month.

The difference in cost in our hospital for care in the day ward compared with an acute cardiology bed was roughly £200 a day. As the mean duration of stay in the group managed conventionally was 2.7 days this reflects an average saving per patient of £540. If all eligible patients given pacemakers in our centre were managed as day cases about £102 000 would be saved each year. Although the availability of day beds may limit the potential cost benefits, beds in the general ward could be used. Pacing centres with a similar proportion of patients eligible for the procedure might expect to double throughput without increasing the total number of beds used for pacing.

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- 1 Belott PH. Outpatient pacemaker procedures. *Int J Cardiol* 1987;17:169-76.
- 2 Zegelman M, Kreuzer J, Wagner R. Ambulatory pacemaker surgery—medical and economical advantages. *PACE* 1986;9:1299-303.
- 3 Bloomfield P, Miller HC. Permanent pacing. *Br Med J* 1987;295:741-4.

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Failure to attend for operation: a comparison between booked admissions and the waiting list system

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A recent report by the National Audit Office suggested that operating theatres in NHS hospitals are used for only 50-60% of the time for which they are available.¹ Many factors are responsible for this, but from a surgeon's point of view probably the most common and frustrating reason, after recurring bed closures, is the failure of patients on the waiting list to attend for their operations when sent for. We compared the

numbers of patients who failed to attend for admission when an outpatient booking system and a waiting list system were used to call patients for operation.

Patients, methods, and results

Two consultant general surgeons working as a firm in this hospital have different systems for admitting patients for operation. One uses a waiting list; after being seen in the outpatient department each patient is placed on this waiting list, the operation being classified as urgent, to be done soon, or routine; there is a separate list for varicose veins. The second surgeon (AJMB) uses a booking system whereby all patients, except those with uncomplicated varicose veins, who are put on a waiting list, are given a date in the clinic for admission for operation. The dates are entered into a diary, which the consultant carries at all times. Each consultant has a similar workload treating comparable

numbers of patients of the same age and socioeconomic distribution. Each has similar gastroenterological interests, has identical on call commitments for emergencies, and has been in post for about 10 years. This prospective study was carried out over 18 months from July 1986 to December 1987, when all the elective admissions and cancellations were recorded and the reasons for non-attendance sought. Statistical analysis was by the χ^2 test and a comparison of means.

The table gives the results. There were 113 fewer cancellations with the booking system than with the waiting list system ($\chi^2=51$, $p<0.001$). The mean time to admission was also significantly shorter with the booking system (5.1 (SD 9.5) weeks, range 1 day-130 weeks) than with the waiting list (11.4 (12.2) weeks, range 1 day-96 weeks; $p<0.001$). The average notice of admission given to patients on the waiting lists was one week.

Comment

We found that 6% of patients with booked admissions and 15% of those called from the waiting list failed to attend for operation after arrangements had been made for their admission. The consultants therefore spent considerable time filling the vacant theatre time. The main reason for the differences in non-attendance seem to be that a booking system takes into consideration the commitments of the patients when arranging their admission, and operations for children can be scheduled for school holidays; similarly, patients can make arrangements for their families and at work in advance of their admission. As patients' expectations of the health service continue to rise there will be increasing demand for this type of arrangement. The waiting time for operation was also longer when the waiting list was used, although other factors, such as the number of

Numbers of patients who did not attend for operation, and reasons why, when booking system and waiting list system were used for 18 months

	Booking system	Waiting list
No called for operation	1350	1345
No of cancellations	83	196
Illness	33	23
Social reason	20	63*
Work	7	14
Family	6	29
Holiday	7	20
Failure of communication	3	4
Cancellation by hospital	17	17
Operation no longer required	1	23*
Reason unknown	9	66*

* $p<0.001$ (χ^2 test).

outpatients, may also influence this. With the increased waiting time some patients presumably either get better or seek treatment elsewhere.

For the surgeon the booking system provides the satisfaction of providing an efficient system that is popular with patients. It does, however, require careful organisation and control. The diary of admissions must be strictly controlled by the consultant, who must match workload to theatre resources accurately while allowing for some emergency operations. There must therefore be flexibility in use of theatre time with the understanding that operating lists may overrun. The system becomes unworkable when lists are cancelled at short notice or recurrent bed crises prevent elective operations. We found that the number of beds (22) allocated to each general surgeon was just sufficient with careful management, so that admissions did not have to be cancelled because of a lack of beds.

1 National Audit Office. *Use of operating theatres in the National Health Service*. London: HMSO, 1987. (Report 143.)

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Rectal diclofenac compared with pethidine injection in acute renal colic

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The pain of renal colic is mediated primarily by prostaglandins, which also increase glomerular filtration,¹ inhibit antidiuretic hormone,² increase smooth muscle tone, and mediate local inflammation,³ leading to further hydronephrosis. Traditional treatment has been intramuscular pethidine with an antiemetic. Non-steroidal anti-inflammatory drugs are as effective as this when given parenterally,⁴ but suppositories have not been formally assessed.

Patients, methods, and results

The local ethical committee granted approval for this study. Patients with a presumed diagnosis of renal colic were randomised by tossing a coin to receive either an injection of pethidine 100 mg and prochlorperazine 12.5 mg or diclofenac 100 mg rectally. We excluded patients with asthma, hypersensitivity to aspirin, impaired renal function (serum creatinine concentration >150 $\mu\text{mol/l}$) or hepatic function, or inflammatory bowel disease; those who had received strong analgesics within four hours of admission; and those who were pregnant or lactating.

Each patient, supervised by the admitting doctor, assessed his or her pain on an ungraduated 100 mm

linear analogue scale cued with "no pain" and "worst pain imaginable." The scale was administered again 30 minutes after analgesia was given. Patients also graded relief of their pain on a three point scale (none, partial, or complete) at 15 minute intervals. Additional analgesia and untoward effects were recorded.

The diagnosis was confirmed by the presence of a calculus on urography or by passage of or removal of a calculus; patients not fulfilling one of these criteria were excluded. Linear scores and differences between groups were compared with the Mann-Whitney U test.

Fifty eight patients were randomised, of whom 29 received diclofenac and 29 pethidine. Four patients in each group whose initial diagnosis was incorrect were excluded. There was no significant difference between the patients given diclofenac and those given pethidine in age, sex, weight (mean 76 kg v 74.3 kg), duration of pain (mean 11.32 h v 11.8 h), and site of the stone. Diclofenac was a more effective analgesic, the mean fall in the pain score being 62 mm in those given diclofenac compared with 44 mm in those given pethidine (95% confidence interval for difference in means 0 to 26 mm, $p<0.01$). The time of onset of analgesia was similar, and 21 (84%) of the patients given diclofenac but only 15 (60%) of those given pethidine were free of pain at one hour (95% confidence interval for difference in proportions 0 to 48%, $p=0.05$). Twelve of the patients who received pethidine required extra doses, one needing seven more. Only one patient given diclofenac, however, received opiate analgesia. Nausea (eight patients), dizziness or dysphoria (four), and vomiting (three) occurred after treatment with pethidine but not diclofenac.

Two potential opiate abusers were excluded, one before and one after randomisation. A 24 year old man

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