

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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left the casualty department after being refused an injection, and a 38 year old woman reported no pain relief after diclofenac and was given pethidine. She discharged herself and did not attend follow up; results of urography were normal.

Comment

Diclofenac suppositories provide potent, specific analgesia in renal colic. They are superior to pethidine, their effect starting at a similar time but lasting longer. In most cases the entire episode of colic was covered by a single dose. All nursing staff can administer diclofenac as it is not a controlled drug, and this is of practical importance in a busy ward.

The fact that diclofenac can be self administered and is not an opiate makes it a useful drug in general practice, especially for patients with recurrent renal colic. Many doctors would be unhappy to leave a

quantity of pethidine tablets in some homes. Increasing numbers of opiate abusers present to casualty departments with symptoms mimicking renal and biliary colic, and a non-euphoric suppository is an effective way of identifying many. We believe that diclofenac suppositories should be considered as the first line treatment of renal colic, both in hospital and in general practice.

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"Auditory hallucinations" from a hearing aid?

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Hearing aids sometimes pick up radiowaves and emit music. This occurred in a patient who was already suffering from auditory hallucinations.

Case report

A 96 year old woman was referred to the department of geriatric medicine because of repeated falls. She suffered from presbycusis and wore a postaural hearing aid. She complained of hearing voices and music. She was overtly depressed and had some paranoid ideas, but there was no evidence of cognitive impairment.

For the next six months auditory hallucinations caused her great distress which was not alleviated by therapeutic doses of antidepressant drugs and tranquilisers. An electroencephalogram showed bilateral temporal lobe spikes consistent with temporal lobe epilepsy. She was given carbamazepine 100 mg twice a day, which reduced the frequency of the hallucinations but did not obliterate them. Two years later she was in hospital with biliary colic, and her hearing aid, which was on the bedside locker, emitted a broadcast from the local radio station. The hearing aid was replaced and though she still has auditory hallucinations they are less severe.

Comment

Hearing aids are the mainstay of treatment for presbycusis.¹ Two types of electronic hearing aids are available on the NHS: postaural aids ("behind the ear" aids) and body worn aids. All of the first type have the conventional O-T-M switch. O=off, M=microphone or on, and T=telecoil. The last is used when in public buildings, such as churches, theatres, and airports, that have been fitted with a loop system. Induction loop systems allow selective transmission of voices to the listener without background noise interfering. Television sets and telephones can also be fitted with loop systems to help diminish background noise.

As the patient's hearing aid was replaced we could not verify the source of the unwanted signal. Several other patients, however, reported picking up unexpected signals, usually from nearby ambulances but

occasionally music. Generally, their hearing aids were on the T setting and probably picked up signals from the hospital radio transmission system. Once inductive pick up occurred while the aid was on the M setting. There was corrosion across the M and T contacts producing a connection of sorts. The signal picked up by the telecoil may have been rectified or demodulated by the metallic salts and then amplified in the normal way. Therefore, even on the M setting an aid might pick up an induced signal and amplify this along with the microphone input signal. The hospital where our patient resided had no radio transmission system, but within a 10 mile radius there were three moderately powerful radio transmitters, two of which broadcast in the medium wave band. These transmitters were amplitude modulated and may have been the source of the music heard coming from the patient's hearing aid.

Our patient had auditory hallucinations due to temporal lobe epilepsy which, coupled with severe deafness, caused depression. Eastwood *et al* reported that about three fifths of their elderly patients with severe hearing impairment had a concurrent psychiatric disorder the commonest of which was paraphrenia.² A relation between deafness and depression has been reported in another study.³ The "hallucinations" from her hearing aid obviously made our patient's condition worse. We think that this happens more often than is reported. This potential problem is not mentioned in publications for patients.^{4,5} Hearing aids should be checked regularly, especially when patients complain of "auditory hallucinations."

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- 5 Department of Health and Social Security. *How to use your hearing aid*. London: HMSO, 1988.

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Correction

Declining incidence of AIDS dementia complex after introduction of zidovudine treatment

An editorial error occurred in this paper by Dr Peter Portegies and others (30 September, p 819). The last sentence of the second paragraph in the results section should read: "Thus significantly more patients who were not taking zidovudine developed the AIDS dementia complex (38/107, 36%) compared with those who were (2/89, 2.3% [not 23%]) (p<0.00001)."

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