Paraoperative care in routine cataract extraction

A comparative study in the United Kingdom

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In the last two decades, several writers have discussed clinical aspects of patient management. Foster (1951) studied the output of doctors, *i.e.* the ability to equate a unit of production with a unit of time (authors' definition). Jackson (1967) urged efficient productivity in the Eye Department. Roper-Hall (1970) recommended the early discharge of child squint patients. In-patient stay, bed occupancy, discharge rates, and waiting lists have been discussed in detail by Gardiner and Morny (1970), Logan, Klein, and Ashley (1971), Heasman and Carstairs (1971), and the Office of Health Economics (1971).

Clinical opinions were expressed by Miller (1968) who outlined the preoperative care of cataract patients, Williamson-Noble (1954), and Hartley (1968), who described the post-operative care of cataract patients, and Zorab (1961) surveyed the techniques of cataract surgery.

Administrators may argue that factors other than clinical are involved in patient management. The National Health Service is a growth industry with an increasing capital and current expenditure, 72 per cent. of which is raised from general taxation. Cost-analysis included employment of nursing staff, price of drugs and dressings, bed occupancy, and length of stay in hospital, factors which no longer concern only the medical staff. Standard routine patient care applied to a common operation, *e.g.* cataract extraction, may reduce economic and nursing staff problems.

No statistics are available concerning the care of patients about to undergo a cataract operation, but this information may be of interest, either to emphasize the absurdity of stereotyped patient management, or to show that a rational approach is required to medical treatment.

Material

A questionnaire comprising 22 questions relating to ROUTINE preoperative and postoperative care of the cataract patient was circulated to 200 surgeons. Replies were eventually received from 158, but eight have been omitted from these calculations, because six surgeons have retired, one questionnaire was returned blank, and one surgeon eschewed any routine. This response is considered to be only fair, but the lack of response may be attributed to the complexity of the questionnaire, and to the fact that the authors are not very widely known.

Results

In the analysis of the replies received, which is set out below, Day 1 is the day following operation unless otherwise specified, and percentages are expressed to the nearest whole number.

Question 1 *Duration of stay in hospital* (Fig. 1)

Here the day of admission is counted as Day 1. The in-patient period varied from 3 to 18 days. Some surgeons quoted their waiting list and the number of beds available, as influencing the routine in-patient period.

Table I *Duration of hospitalization before operation*

No. of days	No. of surgeons
1	82
2	59
3	8
4	1
Total	150

Question 2 *Number of days in hospital before operation* (Table I)

82 surgeons (55 per cent.) considered one day to be adequate. A longer interval was needed in patients with a pre-existing systemic disorder such as diabetes mellitus.

Questions 3 and 6 *Pre-operative investigations* (Fig. 2)

(a) 84 surgeons (57 per cent.) requested culture reports; of this number, three (2 per cent.) ignored the results, and one of the three wrote "cultures were traditional and valueless".

- (b) Seventy (47 per cent.) ordered conjunctival sac washouts, five (3 per cent.) requiring only unilateral washouts.
- (c) 45 (30 per cent.) ordered both cultures and sac washouts.
- (d) 141 (95 per cent.) ordered clinical analysis of urine and a blood pressure recording. Six (3 per cent.) ordered analysis of urine but no blood pressure recording. The remaining three ordered neither.
- (e) 129 (86 per cent.) shaved the eyelashes of the operated eye, and three (2 per cent.) shaved both eyelashes and eyebrows.
- (f) Sixty (40 per cent.) ordered other routine preoperative investigations not related to general anaesthesia. Tabulation of the frequency of these individual investigations was impracticable, but they included body weight, nasal cultures, haemoglobin, erythrocyte sedimentation rate, full blood count, electrocardiogram, blood urea and electrolytes, bleeding and clotting time, intraocular pressure, blood sugar, and chest x ray.
- (g) Consultant opinion by a general physician, or anaesthetist, or psychiatrist, or dentist, was routinely requested by some surgeons.
- (h) One surgeon investigated the social environment of the patient and related it to postoperative discharge and convalescence.

Question 4 Preoperative local treatment (Table II)

Specific treatment with a time scale of instillation was impossible to chart because the information was not recorded. 79 (53 per cent.) used antibiotic drops, and sixteen (11 per cent.) did not prescribe any preoperative drops. No ointment was prescribed.

Question 5 Preoperative sedation for local infiltrative anaesthesia

Sixty (40 per cent.) prescribed sedation: ten (6 per cent.) pethidine, ten (6 per cent.) phenergan, and fourteen (9 per cent.) barbiturates. Four (2 per cent.) used pethidine, phenergan, and largactil; six (three per cent.) used phenergan, sparine, and pethidine. Eight (4 per cent.) prescribed either droperidol or haloperidol, and it is assumed that the four surgeons who induced neuroleptanalgesia are included in this number. Miscellaneous sedatives included Mogadon, Valium, and trichloryl.

Table II Drops instilled preoperatively

Drops	No. of surgeons
Antibiotic	79
Antibiotic + Mydriatic + Anaesthetic	40
Mydriatic + Anaesthetic only	15
No drops	16
Total	150

FIG. 3 Number of days elapsing before cataract operation on the second eye. 56 surgeons operated on both eyes, and 10 operated on both eyes at the same session

Question 7 Both eyes operated upon during the patient's first stay in hospital (Fig. 3)

94 (62 per cent.) operated on one eye, and after an interval, discharged the patient from hospital. 56 (38 per cent.) operated on both eyes at separate sessions during the patient's initial stay in hospital, and ten (6 per cent.) operated on both eyes consecutively at the same session.

Question 8 *Use of infiltrative or general anaesthesia*

62 (41 per cent.) always used local anaesthesia, fifty (34 per cent.) always used general anaesthesia, and 38 (25 per cent.) used sometimes one and sometimes the other. Zorab (1961) stated that 20 per cent. of those who replied to his questionnaire always used general anaesthesia for cataract extraction.

Question 9 *Frequency of dressing the operated eye*

141 (94 per cent.) dressed the eye daily and six (4 per cent.) on alternate days. Three (2 per cent.) did not answer the question.

The authors dress the operated eye at 48- and 72-hourly intervals—that is, irregularly. It is suggested that this entails fewer postoperative complications, and that greater frequency is unnecessary. Less frequent dressing is preferred by the patient, as well as by the nursing and medical staff.

Question 10 *Type of dressing* (Table III)

100 (68 per cent.) used a gauze pad and a cartella shield as sole protection for the operated eye.

Table III *Dressings used after cataract operation*

Dressing	G + CB	G + C + CB	G + L + CB	G	L	C	P + C	L + C	G + C	Total
No. of surgeons	7	12	1	18	1	8	1	2	100	150

Key: C — cartella P — pledget G — gauze pad CB — crêpe bandage L — lint

Question 11 *Unicocular or binocular padding*

Thirty (20 per cent.) padded both eyes and 120 (80 per cent.) padded only the operated eye. Zorab (1961) stated that 33 per cent. padded only the operated eye.

Question 12 *Postoperative local treatment* (Table IV)

(a) 110 (73 per cent.) preferred only eyedrops. The specific local treatment prescribed was not recorded. Five (3 per cent.) prescribed no postoperative local treatment. 140 (93 per cent.) prescribed and five (3 per cent.) did not prescribe local treatment at each dressing. The times of instillation were not recorded.

Table IV *Postoperative local treatment*

Treatment	No. of surgeons
Drops	110
Ointment	8
Drops and ointment	27
No local treatment	5
Total	150

FIG. 4 *Number of surgeons who prescribed postoperative steroids, by day when steroids were started*

(b) 93 (62 per cent.) prescribed local steroids (Fig. 4). The variation in day of usage may indicate that, in the quantities and strength prescribed, the day of initial instillation is not important. Jamieson and Kay (1965) stated that, in therapeutic quantities, steroids do not inhibit wound healing.

Question 13 *Duration of postoperative local treatment* (Table V)

92 (61 per cent.) continued treatment until the eye was white. It is assumed that the whitening of the eye, *i.e.* the suppression of the inflammatory reaction, may be related to topical steroid treatment.

Question 14 *Prescription of postoperative treatment other than local treatment or laxatives*

136 (91 per cent.) prescribed no treatment. Of the fourteen (9 per cent.) who prescribed treatment, three (2 per cent.) prescribed Diamox, five (3 per cent.) various antibiotics, three (2 per cent.) vitamin C, one Tanderil, one Valium, and one ethyl alcohol.

Question 15 *Prescription of post-operative laxatives*

139 (93 per cent.) did not prescribe laxatives, and eleven (7 per cent.) prescribed them routinely.

Table V *Duration of postoperative local treatment*

<i>No. of days</i>	<i>No. of surgeons</i>
7	9
10	11
14	20
Until eye white	92
Variable	18
Total	150

Table VI *Postoperative nursing position*

<i>Position</i>	<i>No. of surgeons</i>
Full Fowler's position	134
Lying flat in bed	9
No fixed regime	7
Total	150

Question 16 *Postoperative nursing position* (Table VI)

134 (89 per cent.) recommended the full Fowler's nursing position, and nine (6 per cent.) recommended that the patient be nursed lying flat in bed.

Question 17 *Postoperative feeding*

47 (31 per cent.) did not allow the patient to feed himself; the duration of assisted feeding is shown in Fig. 5.

FIG. 5 *Number of surgeons who required staff to feed patients postoperatively, by number of days that assisted feeding was continued*

FIG. 6 *Number of days patients were kept in bed after operation*

Question 18 *Regime of mobilization* (Fig. 6)

Early mobilization was encouraged, and 87 (58 per cent.) recommended the patient to sit out of bed

bed on the day after operation. The length of time that a patient was allowed to sit out of bed on each postoperative day was not recorded.

Question 19 *Prescription of dark glasses* (Table VII)

108 (72 per cent.) prescribed dark glasses.

Table VII *Interval between operation and prescription of dark glasses*

Postoperative day	1	2	3	4	5	6	7	10	12	14	Total
No. of surgeons	6	6	16	12	23	13	23	2	1	6	108

Question 20 *Prescription of temporary (trial) glasses*

117 (78 per cent.) prescribed temporary glasses.

Question 21 *Interval between operation and testing for permanent glasses* (Fig. 7)

Some patients were tested, but glasses were not ordered until up to 10 weeks after the test. It is assumed that the prescription then ordered was not identical to that determined at the first time of testing.

FIG. 7 *Interval (days) between operation and testing for permanent glasses; these were not always ordered when the test was made*

Section 22 *Interval between discharge from hospital and out-patient appointment* (Table VIII)

55 (36 per cent.) recommended a 14-day interval, and 44 (30 per cent.) a 7-day interval.

Table VIII *Interval between discharge and out-patient appointment*

Postoperative day	3	4	5	6	7	10	14	17	21	28	No fixed interval	Total
No. of surgeons	1	4	4	1	44	28	55	2	3	1	7	150

Discussion

Patient management varies according to the personal preferences of the surgeon but certain trends are discernible. The total period of hospitalization varies within narrow limits, and the stay in hospital before the operation is kept as short as possible.

Cultures and conjunctival sac washouts are ordered by fewer surgeons than anticipated (57 and 47 per cent. respectively), but prophylactic antibiotic drops may be substituted for these investigations. Urine analysis, a blood pressure recording, and shaving of the eye-lashes are considered to be essential by the majority. The diversity of other preoperative investigations testifies to the individualistic approach of ophthalmologists. The increasing use of general anaesthesia indicates increased respect for the skill of the anaesthetist. The operated eye is dressed daily by many surgeons, but this method is not adopted by the authors. The emphasis on patient comfort and independence is illustrated by the position of rest in bed, early mobilization, single-eye padding, and encouragement of self-feeding. The prescription of dark glasses and temporary glasses is favoured by the majority. An odd feature is the discrepancy between the date of testing for permanent glasses and the date of ordering them—an interval of 1 to 10 weeks being recorded by a small minority.

It is considered impossible to enforce standard routine patient care without undermining individual clinical responsibility, and educative measures alone can never eliminate personal preferences.

Summary

The encroachment of the administrative viewpoint on clinical medicine is discussed. Attention is drawn to the lack of information regarding routine care of the cataract patient about to undergo operation. A questionnaire relating to this was circulated to 200 surgeons and the replies of 150 are analysed.

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