

Day Case Strabismus Surgery Without Post-Operative Ocular Medication. A Masked Randomised Study

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Summary

A masked, randomised study was designed to test the hypothesis that day case strabismus surgery and the absence of post-operative topical medication is a plan of management that does not compare unfavourably with discharge from hospital on the day after surgery with topical antibiotic and anti-inflammatory therapy for 14 days. The results indicate that patients who have day case surgery do not have more complications than overnight stay patients and that their inflammation and discomfort settle just as quickly without topical therapy. Medical, social and financial benefits of day case surgery are noted.

Day case surgery is becoming accepted practice for many common procedures, including strabismus surgery.¹ Strabismus has been identified as a condition for which day case surgery may become the norm.² There is much to be said for minimising the length of time children are removed from familiar surroundings.

There are no grounds for expecting early discharge from hospital to have a detrimental effect on the local results of surgery. Most objections relate to concern about adequate recovery from general anaesthesia. These can be met by operating in the morning so as to allow the afternoon for recovery.

The use of post-operative topical medication is widespread in the form of antibiotic drops or ointment, commonly combined with anti-inflammatory agents. The value of post-operative antibiotics has been seriously questioned. Kirkby, Clayden and Harcourt (unpublished) observed in 188 patients given no postoperative antibiotics only one case of culture-positive conjunctivitis. This

responded rapidly to treatment with chloramphenicol drops. It has been our practice to instil oxyphenbutazone/chloramphenicol ointment twice daily for 14 days.

To answer the following questions:

- (1) is day case strabismus surgery safe?
- (2) is our customary prophylactic post-operative medication necessary?

we compared the findings in one group of patients treated 'conventionally' (overnight stay in hospital and 14 days topical antibiotic/anti-inflammatory ointment) with those in a 'study' group treated as day cases and given no per- or post-operative medication.

Materials and Methods

By computer, a list of consecutive numbers was generated to each of which overnight stay or day case, and one or other surgeon had been allotted at random. Healthy patients aged between 11 months and 6 years requiring strabismus surgery were assigned successive numbers on this list at the time the decision was made to operate. The study was then discussed with the parents and informed consent obtained. If consent was not given the allotted

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Table I. Discomfort judged from eye rubbing

		24	72	1 week	3 weeks
		hours	hours		
O/N	slight	11	6	9	2
(22)	moderate	0	3	0	0
DAY	slight	7	1	1	0
(20)	moderate	1	0	0	0

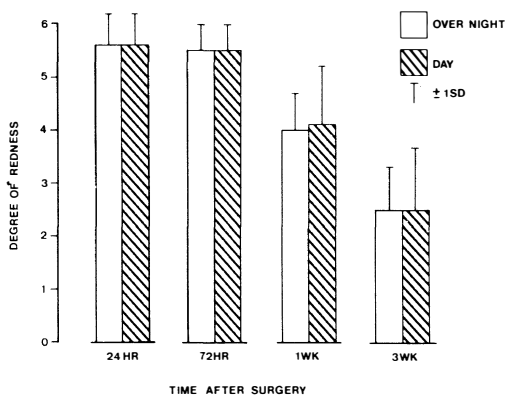
Table II. Eye redness scores

grade		24	72	1 week	3 weeks
		hours	hours		
6	O/N	15	12	0	0
	DAY	13	10	1	0
5	O/N	6	10	6	0
	DAY	6	10	7	1
4	O/N	1	0	10	2
	DAY	1	0	7	3
3	O/N	0	0	6	8
	DAY	0	0	4	5
2	O/N	0	0	0	8
	DAY	0	0	0	5
1	O/N	0	0	0	2
	DAY	0	0	1	4
Total		42	42	42	38

the mean redness scores of the eye in the 2 groups at any time point (t test: 95 per cent confidence interval at 1 week $-0.69 - +0.49$ and at 3 weeks $-0.73 - +0.62$). (Table II and Fig. 3).

Failures

Four families expressed unwillingness to participate in any type of study and a fifth refused

**Fig. 3.** Mean post-operative redness score.

consent because they would have had great difficulty attending the follow-up programme. One patient was referred elsewhere for a second opinion, one was removed from the study after a cardiac murmur was noted, and another left the area after surgery and was followed up elsewhere.

Discussion

In this study discharge from hospital on the day of surgery without medication was not found to be detrimental to the patients. Routine use of ocular medication carries the risk of allergic reactions, systemic side effects and distress to the child and parents. The mothers of 6 of the 'conventional' group patients made unsolicited comments about the difficulty of administering the ointment, and how much their children appeared to resent it. Several admitted that because of this application had been irregular. Consequently we suspect that compliance in giving eye medication to children is, in general, poor.

As shown in Table I, children in the 'conventional' group appeared to rub their eyes more. This is a very subjective assessment but it is possible that some soreness could be caused by the ointment. Persistent rubbing might lead to increased inflammation and delayed healing.

Anxiety as a result of being in unfamiliar surroundings might account for the apparent increased vomiting in the children kept in hospital overnight.

Although parental responses are very subjective, we do feel that the management of the 'study' group was socially advantageous. The financial benefits to the health care system are obvious.

Conclusion

We suggest that day case surgery for strabismus is safe and routine post-operative medication unnecessary so long as adequate time for recovery from anaesthesia is allowed, and an open access system provided through which parents are encouraged to report their concerns immediately to the team responsible for their child's care. The close surveillance

performed in this study in the first post-operative week does not appear to be necessary.

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