EFFECT OF EYE-PADS ON HEALING OF SIMPLE CORNEAL ABRASIONS

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A simple corneal abrasion is one of the commonest lesions in patients attending the casualty department of any eye hospital, and must be equally common in general practice. There is nevertheless no unanimity concerning the mode of treatment, particularly with regard to the necessity of padding or not padding the affected eye, practice in this respect varying widely from hospital to hospital. Most textbooks recommend padding, but no controlled work on this subject seems to have been reported in the English literature.

Method

During a two-month period, all patients presenting in the casualty department suffering from a superficial abrasion of the cornea, without any complicating lesion such as an embedded foreign body or damage to any other part of the eye, were included in the trial. A diagram of the initial lesion was made by the house-surgeon on duty, who prescribed treatment with gutt. sulphacetam. 10% t.i.d. and, if he thought it necessary, a suitable mydriatic, usually gutt. atrop. 1%. A pad of cotton-wool covered by net, kept in place by two 1-in. (2.5-cm.) strips of cellulose self-adhesive tape, was applied only to those patients attending on alternate days, the remaining patients being left without any eye cover; the effect of the house-surgeon's duty rota was that each house-surgeon dealt with the padded and unpadded patients. The patients with a pad were instructed to wear it until told otherwise. They were subsequently seen daily by myself or, when I was not available, by the duty house-surgeon, and the size of the area staining with gutt. fluoresc. 1% was noted. The cornea was regarded as healed when no further staining was seen; those patients wearing pads were then allowed to discard them. The subsequent history of the patients was reviewed a further two months after the end of the trial.

Results

Of the total of 222 cases, 27 were rejected for the following reasons: incomplete records (16), failure to carry out the prescribed treatment (6), and the subsequent discovery that a more serious lesion had been produced as a direct result of the injury (5).

Of the remaining 195, 91 were treated by padding and 104 were left without padding; 14 of the former and 24 of the latter ceased daily attendance before healing of the abrasion, so that only 157 patients completed the trial (77 padded and 80 not padded). There was no significant difference between these groups in the number treated by mydriasis, in the original size of the abrasion, in the length of history, or in the nature of the original injury.

The first day on which no stain with fluorescein was noted is shown in the Table, the days being numbered from the first day of attendance. From these figures it is apparent that there is no significant difference in the rate of healing of the two groups. The process of healing appeared to be without notable complication

except in one patient in the padded group who developed corneal ulceration with hypopyon and was admitted to hospital; this patient is not included in the Table, since the exact day of healing is not known. Complications subsequent to healing occurred in the follow-up period in three patients, all in the padded series.

One patient, in whom conjunctival staining was noted on first attendance, showed healing of the abrasion in three days but developed acute conjunctivitis on the sixth day.

First Day When No Stain was Noted

Day:	2	3	4	5	6	7	Total
Padded ..	42	19	9	5	1	1	77
Not padded ..	48	17	6	6	3		80
Total ..	90	36	15	11	4	1	157

One abrasion, which was apparently healed on the third day, recurred on the fourth day and the patient attended for treatment for a further five weeks.

One abrasion recurred after five weeks; the original injury was by a finger-nail, which is a well-recognized cause of recurrent corneal erosion. So far, this is the only recurrence in the 12 patients with finger-nail injuries; in other respects these abrasions healed in a normal manner and at normal speed in both padded and unpadded groups.

Discussion

A few of the patients who defaulted may have decided to attend for treatment elsewhere, but as the hospital eye services are highly centralized in this area it is probable that the majority ceased to attend because their eye was better. The cause of the higher proportion of defaulters among the unpadded than among the padded cases must be sought in other factors; it is probable that the unpadded had no psychological reason to return once they felt well, but the padded group felt the necessity to return to have the pad removed.

This survey has failed to show any increase in the rate of healing of simple corneal abrasions in the padded as compared with the unpadded group; moreover, though the series is small and the complications are correspondingly few, such complications as occurred were all in the padded series. It would appear justifiable, therefore, to recommend that such simple abrasions should be treated without a pad.

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The National Library of Medicine, U.S.A., has recently acquired the *Dissertatio medica inauguralis de motu musculorum* (1761) of Benjamin Alexander, later the translator of Morgagni's *De sedibus . . .*, published in three large quarto volumes in London in 1769. Of Alexander, Munk quotes Mr. Wadd (possibly William Wadd in his *Nugae chirurgicae*, 1824) to the effect that he "was a short, corpulent man, and so great a devotee of the Brunonian system, that he drank thirteen pints of porter the day of his death. . . . He used to say he undertook the translation of Morgagni's work in consequence of a taunt from Sir George Baker, but the guinea per sheet from the bookseller was a more probable cause. He was a clever man, but vain of his talents." (*National Library of Medicine News*, August, 1960.)