SURGICAL PROCEDURES IN GENERAL PRACTICE

This is one of a series of articles contributed by invitation

INJURIES AND INFECTIONS OF THE EYE

BY

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Diagnosis and treatment of the minor injuries and infections of the eye and eyelids do not call for the specialized knowledge and methods that major ophthalmology requires, but minor ophthalmology does none the less necessitate something of the same faithfulness to detail and care in examination. These are acquirements not beyond the reach of the conscientious practitioner. Since the complicated ritual of "inspection, palpation, percussion, and auscultation" is replaced in ophthalmology almost entirely by inspection, the first essential in the treatment of eye conditions—the minor no less than the major—is facility in the use of the inspection lamp, the condensing lens, and the loupe. That amaurosis which has been defined as the condition in which the patient saw nothing and the doctor also saw nothing most definitely has no place in modern ophthalmology. To undertake the diagnosis of an eye lesion without the aid of suitable illumination is folly; to attempt treatment under such conditions borders on malpraxis. Equipped with an irreducible minimum of special information, an average of general knowledge, and the maximum of suitable conditions in the way of illumination, minor ophthalmology falls well within the province of the general practitioner.

Foreign Bodies

The conjunctival sac is a self-flushing mechanism, so that most foreign bodies are washed away automatically, this being helped by the excessive flow of tears caused by the irritation from the foreign body. It is only when a foreign body becomes embedded that mechanical removal is called for. The simplest mechanical procedure, one which works quite well in a large proportion of cases of foreign bodies lightly fixed on to the cornea, is to pull the upper lid on to the cornea and by a few brisk vertical and lateral movements of the lid set the foreign body free. Once it floats freely in the conjunctival sac it is usually washed away. When a foreign body is more firmly embedded in the cornea instrumental removal becomes necessary. The eye should be anaesthetized by the instillation of two or three drops of 4 per cent. cocaine solution, repeated after an interval of two minutes. Whilst the cocaine is exerting its action the eye should be kept closed. When the eye is fully anaesthetized an assistant should keep the lid open, the patient being instructed to open the unaffected eye. It is also the duty of the assistant to concentrate the light on to the cornea, using a condensing lens if necessary. Having located the foreign body with the naked eye when it is fairly large, or with the aid of the loupe when it is small, the operator should proceed to dislodge it by introducing a discission needle behind it. The widespread practice of scratching the foreign body away with a flat spud should not be employed; it is a crude procedure which does not dislodge any firmly embedded foreign body, and it damages the corneal epithelium over a large surface, producing an abrasion. The use of the discission needle is easily acquired, and the one important

thing to remember is that manipulations with a fine point should be in a plane parallel to the cornea and not at right angles to it, as otherwise the cornea may be perforated, with dire consequences. Foreign bodies that have been embedded for a day or so generally leave some discoloration of the bed. Unless one is expert at removing tiny particles it is better to leave that alone. The instillation of some antiseptic drops, such as gutt. emulsio acriflavin. 1 in 2,000, or gutt. coll. argentum 1 in 2,000, or gutt. argyrol. 10 per cent., after a foreign body has been removed, is useful. As the cornea remains anaesthetized for several hours it is essential to bandage the eye after this procedure.

Foreign bodies giving trouble are not necessarily always on the cornea. Occasionally much discomfort is experienced from the lodgment of a foreign body, sometimes of surprising dimensions, in the fornix of the upper lid. No search is therefore complete if it only involves inspection of the cornea. The lower fornix is easily seen, and the upper lid must be turned out with due pressure on the fornix to disclose its folds. Foreign bodies of this type are generally quite easily removed with a pledget of cotton-wool, cocainization of the eye not often being called for.

Corneal Abrasion

A baby's finger poked into an eye is a common cause of corneal abrasion; scratching of the cornea by other means is relatively uncommon, if one excludes unskilled attempts to remove foreign bodies. Spontaneous abrasions may sometimes occur as a familial corneal lesion. Abrasions are never silent lesions: they produce extreme irritability, and advice is invariably sought. The irritability does not subside until the epithelium covering the exposed nerve terminals is healed again. The discomfort can be alleviated by the instillation of a mydriatic such as oily hyoscine $\frac{1}{4}$ per cent. in all patients under 40 and in those over 40 who have normal ocular tension; in addition a pad and bandage should be placed over the eye. In most cases the symptoms subside within three or four days, though they may persist for as long as a week.

Corneal Ulcerations

Trauma is responsible for a large proportion of corneal ulcers. An unremoved foreign body, an infected abrasion, and traumatic loss of tissue can cause a corneal ulcer. The treatment of a corneal ulcer depends entirely upon whether the ulcer is infected or not. The uninfected ulcer has a clean base and clean margins. The infected ulcer has a yellowish or dirty greyish appearance, usually most pronounced at the margins. An uninfected ulcer is treated in the same way as a corneal abrasion. Indeed, there is little difference between an abrasion and a corneal ulcer: in the one the epithelium only is concerned, in the other interstitial tissue is also involved. Where infection has occurred serious consequences may result, even to the extent of the whole of the cornea being destroyed. The sepsis must be combated energetically, and most infected corneal ulcers respond well to carbolic acid. This is a simple procedure, as follows:

(a) The extent of the ulcer is clearly defined by marking it out with two drops of watery fluorescein 1 per cent. instilled

into the conjunctival sac and washed away with two drops of cocaine 4 per cent., the excess fluid being drawn off with clean blotting-paper.

(b) The ulcerated area thus marked out is then lightly touched with pure liquefied carbolic acid applied with a match cut down at one end to a fine point, which is soaked in the carbolic acid. The amount of acid actually brought in contact with the ulcerated surface and the infected margins is therefore very small. If an excess of carbolic has been applied it forms a greyish film on the healthy epithelium: this should of course be avoided, but no serious consequences result from the presence of a minute drop of carbolic on the healthy cornea. Special care should be taken with the margins, particularly in the case of a spreading ulcer.

(c) The carbolic acid acts as an analgesic as well as an anti-septic, but the procedure is none the less painful, the pain often being more intense an hour after the carbolizing than during the process itself. The discomfort can be alleviated by instilling pure castor-oil drops into the conjunctival sac and bandaging the eye, though bandages should never be applied where there is a mucopurulent discharge. Symptomatic treatment for the pain, such as the administration of aspirin, phenacetin, etc., may be necessary. If a corneal ulcer does not respond to carbolizing the matter becomes an emergency to be left to an expert, for at its best a corneal scar seriously affects vision. Carbolicizing can be repeated at daily intervals, but excessive carbolicizing is to be deprecated.

Industrial Accidents

Many cases of foreign bodies in the eye, abrasions, and corneal ulcers are industrial accidents. These occur with far too great a frequency; for though excellent protective measures are now available they are unfortunately not widely used. Protective goggles that can be comfortably worn have been devised to overcome the special dangers to which workmen exposed to flying chips of stone and metal are liable. The Home Office Industrial Museum has a large collection of such appliances, and the example of the Royal Eye Hospital, London, where there is a permanent exhibition of different types of goggles and special protective appliances, might well be copied by other ophthalmic centres. Industrial accidents are not confined to minor injuries: intra-ocular foreign bodies are not uncommon, and when they do not lead to the loss of the eye they often seriously lower the visual capacity and limit the industrial efficiency of the victim. Every perforating wound of the eye and every case in which an intra-ocular foreign body is suspected should at once be referred to a properly equipped ophthalmic department. Radiant energy is also a factor in industrial injuries, with a range extending from transient conjunctivitis to cataract formation. These conditions, too, are largely preventable by the use of suitable goggles.

Styes

An isolated styne calls for no further treatment than the epilation of one or more infected lashes, together with hot fomentations. Incision of a styne should be avoided. A spreading crop of styes from the infection of adjacent hair follicles is not infrequent, and makes treatment of the condition tedious. When multiple infection occurs rational treatment aims at increasing the patient's resistance. In addition a course of colloidal manganese injections is sometimes helpful, 1 c.cm. being injected intramuscularly at weekly intervals for six weeks.

Blepharitis

Blepharitis is essentially a disease of childhood. It would appear that there is no local exciting factor, but any refractive error present should be corrected. The milder forms of blepharitis respond to washing away of the crusts with bicarbonate solution, 20 grains to the

ounce. The lid margins are best washed by means of pledgets of cotton-wool soaked in the solution, and this should be done at night and in the morning. More severe cases require the washing off of the crusts with pledgets of cotton-wool soaked in hydrogen peroxide 10 or 20 volumes and painting the lid margins with liquor tinctorium *B.P.C.* every night. This treatment has the disadvantage of imparting a bluish colour to the lid margin, but it is far more efficacious than the measures usually adopted. It has proved singularly successful at White Oak Hospital, where the severest cases of blepharitis in London school children are treated. The general factor in blepharitis must not be overlooked: the children affected are often undernourished, and attention to their diet and health is essential.

Phlyctenular Ophthalmia

In contrast to the exogenous type of ulceration as represented by the traumatic corneal ulcer there is a large group that is endogenous in origin. Phlyctenular keratitis represents one of the commoner types. While phlyctenular conjunctivitis causes much discomfort, largely on account of the intense photophobia, corneal involvement is a grave complication, not only because the symptoms are much more intense but also because of the sequelae in the form of corneal scarring. In view of the liability to frequent relapses phlyctenular ophthalmia should be regarded as a condition calling for an intensive examination of the child. In practically all cases evidence of tuberculous infection, as shown by the Mantoux test, will be found, though active clinical tuberculosis is the exception. The phlyctenular may indeed be regarded as a spontaneous Mantoux reaction in the cornea of a tubercle-infected child, and every care is to be taken to eliminate contact with tuberculous patients. The general health of the child calls for attention, and a prolonged stay in the country is indicated, particularly in cases in which the cornea is involved. At the height of an attack much can be done to make the child more comfortable. Protection against light can be given by the use of dark glasses, supplemented if necessary by a double shade over the eyes. These shades should be home-made, the material used being some flexible cardboard: the shades generally sold do not readily allow discharge to drain away from the eye, and are often painted with irritating dyes. Where the cornea is involved, gutt. atropin. 1 per cent., 2 drops thrice daily, should be instilled in the affected eye. Various vitamin preparations, as also cod-liver oil, have been recommended as specifics; they are useful in so far as they help to build up the patient. The child with phlyctenular ophthalmia should be regarded as a potential victim of clinical tuberculosis, and the general lines of treatment for this type of patient are more important than a narrow adherence to some special medication. Where the corneal complications of phlyctenular ophthalmia consist of relatively evanescent vesicles which break down, leaving a small ulcer that heals readily, local applications other than atropine drops are to be avoided. The scarring that corneal phlyctenulae leave tends to become less marked with time; where the scarring is heavy, restoration to the normal is helped by the use of ethyl morphine hydrochloride ("dionin"). This, in solution, should be instilled into the eye when all signs of irritability have been absent for at least four weeks, the strength being worked up from 2 per cent. to 8 per cent., increasing by 1 per cent. at fortnightly intervals. The drops should be used once a day only, preferably in the evening, and as they are irritating they should be discontinued at the first sign of irritability of the eye.

Rosacea Keratitis

In contrast to phlyctenular keratitis with its heavy incidence in children, rosacea keratitis is essentially an affection of youngish women suffering from acne rosacea. The corneal lesion may be present when the skin condition is in abeyance, and this affection is to be suspected in cases of recurrent corneal ulceration in women 20 to 30 years of age. Gutt. atropin. 1 per cent., 2 drops twice daily in the affected eye, and dark glasses if necessary, constitute the local treatment where ulceration is active. Of greater importance is the adjustment of any alimentary disorder that may be present. Generally a mixture containing 15 to 20 minims of dilute hydrochloric acid taken by mouth three times a day proves most helpful as hypochlorhydria is commonly present.

THE CANCER CAMPAIGN

Viscount Hailsham presided at the sixty-sixth quarterly meeting of the Grand Council of the British Empire Cancer Campaign held at 11, Grosvenor Crescent, S.W., on April 11. Those present included Lady Barrett, Mr. Stanford Cade, Dr. Malcolm Donaldson, Sir Charles Gordon-Watson, Mr. W. Sampson Handley, Dr. G. W. C. Kaye, Professor J. McIntosh, Mr. W. Ernest Miles, Mr. W. H. Ogilvie, Mr. Cecil Rowntree, Mr. R. H. Jocelyn Swan, Sir James Walton, Sir David Wilkie, and Dr. R. W. Scarff (honorary secretary of the Scientific Committees).

A further sum of £1,338 was allotted for one year for the extension of the national propaganda work being carried out by the Central Propaganda Committee. The committee will now proceed to arrange these free educational lectures in Cornwall, Devon, Dorset, Gloucestershire, Somerset, Wiltshire, and also in South Wales. Dr. Malcolm Donaldson, the chairman of the committee, reported that to date over 700 public lectures had been given in the fifteen English counties which have already been organized. A report was received from the Co-ordinating Committee, which represents headquarters and the principal autonomous provincial councils of the Campaign, concerning the production of a propaganda film to be used in conjunction with the educational lecture schemes. It was unanimously decided that such a film should be produced by the Central Propaganda Committee in collaboration with the autonomous councils.

Investigations in Progress

Sir Charles Gordon-Watson, vice-chairman of the Clinical Cancer Research Committee, reported that the organization for the statistical cancer inquiries in the teaching and special hospitals of London and the hospitals of the London County Council and the Middlesex County Council had now been completed. All these institutions had appointed registrars to take charge of the records at their respective hospitals, and the headquarters arrangements were being perfected to deal with the data concerning over 17,000 new cases of cancer yearly in the metropolitan area of London. Grand Council confirmed the recommendation for the appointment in the near future of a full-time medical secretary and registrar at headquarters for this purpose.

A further grant of £1,000 for one year was placed at the disposal of the North of England Council of the Campaign to enable the "short-wave" investigations to be continued under the direction of Dr. F. Dickens and Dr. S. F. Evans. This work, which is a continuation of that which appeared in the last annual report of the Campaign and in a recent issue of the *American Journal of Cancer*, concerns the investigation of the effect of varying forms of heat upon malignant tissues.

Early Diagnosis and Treatment of Cancer

The incidence, prevention, and treatment of cancer were discussed by Sir Arthur MacNalty, Chief Medical Officer of the Ministry of Health, in an address delivered on the following day at a meeting of the British Empire Cancer Campaign at the Mansion House. The Lord Mayor of London, who presided, explained that the Minister of Health, who was to have delivered the address, had been detained by business in the House of Commons.

Sir Arthur MacNalty said that, although cancer had now risen to second place in the list of fatal diseases in this country, it did not necessarily follow that the causes of the disease, whatever they might be, were becoming more prevalent. Increasing longevity (to-day people lived, on the average, fifteen years longer than they did a generation ago), increased ability to diagnose cancer in difficult cases, and true certification of the causes of death all played a part. The main lines of attack on the disease were prevention and treatment. On the side of prevention it could be said that the study of the causes of cancer was being carried on with great vigour throughout the world, and the boundaries of knowledge had been considerably extended.

In the realm of diagnosis and treatment radium and x rays were now associated with surgery, and the large hospitals of the country were now supplied with facilities for treatment by radium. Excluding London, there were at present in Great Britain twenty-two radium centres, of which seventeen were in England, one in Wales, and four in Scotland. The chief national concern was clearly that facilities for early diagnosis and adequate treatment should be readily available to the whole population. That adequate facilities were still far from being readily available appeared from investigations made by the Radium Commission and in the Ministry of Health. The problem was to ascertain how a small number of hospitals specially equipped with radiation plant might serve the whole population; in other words, these hospitals should serve for the purposes of cancer, areas larger than those they normally served. The extension of the sphere of influence of such hospitals and the creation of more treatment centres both offered possibilities as means of approach to the problem; but whatever arrangements were adopted it was evident that to throw a burden of this national kind wholly upon a small number of hospitals would be impracticable.

Need for Joint Efforts

The Minister of Health felt satisfied, and was supported by the views of the Radium Commission, that the position could best be met, and indeed could only be met, by more active co-operation on the part of local authorities. Broadly speaking, the division of function between the voluntary hospitals containing treatment centres and the local authorities would be that treatment would remain with, and be carried on in, the hospitals (the "centres"), while the peripheral "field" work would rest with the local authorities. Another important work was that of bringing to the notice of the public and of medical practitioners the provision of additional facilities. The Propaganda Committee of the British Empire Cancer Campaign had done good work in this connexion, and a wider provision for diagnosis and treatment should lead more people to follow the advice, "Go and see your doctor without delay."

"The general view of the situation," concluded Sir Arthur MacNalty, "is that, even though the results of research may eventually put into our hands one or more means of prevention, their effects cannot be expected to be immediate and striking. Until those effects come to fulfilment we must expect the usual incidence of cancer, and consequently provision of means for diagnosis and treatment cannot be regarded as other than essential."