

ON

ACUTE OPHTHALMIA,

AS IT OCCURRED IN

THE LEFT WING OF H.M.'S 37TH REGIMENT

DURING

1851-52,

Whilst stationed at Colombo, in Ceylon.

BY

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LONDON :

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MDCCLXI.



“*Ophthalmia* is, in my estimation, one of the most important
“ subjects to which the attention of a Military Surgeon can
“ be directed.”

BALLINGALL.

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ON
ACUTE OPHTHALMIA,
ETC.

THE 37th Regiment embarked in November, 1846, and landed at Ceylon in the following March. They were stationed at Colombo in 1850, when acute ophthalmia appeared for the first time in the left wing of the corps. Up to that period the entire regiment had enjoyed an almost complete exemption from ophthalmia for a number of years, and hence it became a matter of much interest to discover the cause of the sudden outbreak of a complaint which has often proved a source of regret and of much anxiety to commanding officers, and of vexation and disappointment to surgeons. It has, even on more than one occasion, led to the breaking up of garrisons, and affected the efficiency of whole battalions.

A. It is right to state, *in limine*, that no disposition existed on the part of the men to decline reporting themselves when attacked by the disease. The non-commissioned officers and privates had strict injunctions to report immediately any case of

sickness or indisposition that might come to their knowledge; and close observation of the various cases enables me to state, with every confidence, that no reasonable grounds exist for suspicion that the disease was produced or aggravated by design. In a word, the *morale* of the regiment was unexceptionable.

A circumstance added additional obscurity to the investigation into the causes of this sudden outbreak of ophthalmia in the left wing of the 37th Regiment. The artillery and H.M.'s 15th Infantry, their cotemporaries and co-residents in the place, enjoyed a comparative exemption from the disease, all the more remarkable that the native population suffered a good deal from it at the time. This circumstance of its being all but confined to four companies of a single regiment did not tend in any way to clear up the difficulty as to its origin; and, in the absence of other data, it may be interesting to know the various causes assigned by the men themselves.

CAUSES ASSIGNED BY THE MEN THEMSELVES.

14 ascribed the disease to exposure to the night air.

12 to the sun's rays.

5 to sitting in the wind or currents of air.

3 to dust blown into the eyes.

2 to the barrack-room door being left open at night, and thus getting cold.

1 to dust from breaking stones.

15 to catching cold.

24 to no particular cause.

Of these patients,

33 first felt the affection at night.

43 „ „ during the day.

And 35 while on guard.

1 on parade.

5 whilst in hospital.

1 „ on orderly-room duty.

34 „ in their barrack-room.

In 31 it first appeared in the right eye.

40 „ in the left eye.

5 „ in both eyes.

For my own part, I experienced the usual difficulties all, I believe, have experienced in their inquiries into the cause of the disease. The barrack-room accommodation as to lavatories was by no means good;* but as to the other blameable causes, they were such as existed elsewhere without giving

* The lavatories, particularly of the Hospital, have been greatly improved since the above was written.

rise to the same results. The men themselves have described or named them in their enumeration of the causes to which they ascribed the disease. To these I have nothing to add. In respect of the influence exercised by seasons and climate, the following tables give all the information I could collect:—

INFLUENCE OF SEASON.

I. The order of admission of patients to the Hospital, keeping in view the important fact of the largest numbers, was—

In April were admitted	15	In January . . .	3
June	10	February . . .	7
February	7	March . . .	6
July	6	April . . .	15
May	6	May . . .	6
August	6	June . . .	10
March	6	July . . .	6
September	5	August . . .	6
October	3	September . . .	5
January	3	October . . .	3
November	2	November . . .	2
December	1	December . . .	1*

The disease then showed no curve or line having a reference to season. The cases amounted to

* A glance at the table will best explain the influence of cool weather over the disease.

seventy-six in all, of whom six remained from the preceding year. Even the companies composing the wing showed a capriciousness, in respect of the disease, admitting of no explanation; for

Company D presented 40 cases.

„	G	„	31	„
„	L	„	4	„
„	F	„	1	case.

II. During the period referred to, the extreme range of the

		<i>Thermometer</i>	and	<i>Barometer</i>
In April	was	67°	to 86°	„ 29·35 to 30·29
May	„	80°	to 83°	„ 29·95 to 30·02
June	„	78°	to 82°	„ 30·2 to 30·28
July	„	78°	to 81°	„ 30·01 to 30·28
August	„	79°	to 80°	„ 30·2 to 30·29
September	„	78°	to 81°·50	„ 30·3 to 30·29
October	„	78°·50	to 82°	„ 30·2 to 30·31
November	„	78°	to 82°·50	„ 30·2 to 30·33
December	„	77°	to 81°	„ 30·3 to 30·35
January	„	77°	to 84°	„ 29·30 to 29·85
February	„	78°	to 86°	„ 29·30 to 29·85
March	„	81°·50	to 88°·50	„ 29·30 to 29·85

The average annual fall of rain at Colombo is about seventy-two inches.*

* The monsoons obviously influence the disease; the N.E. monsoon (from December till March) is comparatively healthy—the S.W. monsoon (from April to September) the reverse.

III. No military surgeon who has served in tropical and hot countries generally, will feel surprised on learning that, whilst the average admission for ophthalmia is in the British Islands nineteen per thousand of the mean strength, the ratio prevailing in Ceylon is seventy per thousand of the mean strength; but even in this there exists, if one may so say, a caprice which seems to defy all inquiry into the cause of such differences. The following table will best exhibit my meaning:—

AVERAGE OF ADMISSIONS FOR OPHTHALMIA TO THE
MEAN STRENGTH IN VARIOUS CLIMATES.

Annual Admissions per 1000 of the Mean Strength.

Sierra Leone	12 per 1000.
United Kingdom	19 "
Mauritius	32 "
Cape of Good Hope (Town)	32 "
St. Helena	35 "
Cape (Frontier)	43 "
Canada	45 "
Ceylon	70 "
Leeward Command	89 "
Jamaica	90 "
Gibraltar	97 "
Bermuda	99 "
Malta	102 "
Ionian Isles	102 "

In Ceylon the setting in of the south-west and north-east monsoons are considered as particularly inimical to health; and by a reference to the table it will be found that the largest number of admissions occurred in April and June; after which they gradually decline, and again increase in October and until after December.

TREATMENT.

B. Seeing that the inquiry into the causes of ophthalmia as it occurred turns out so unsatisfactory, it is pleasant to be able to record that this cannot be said of the treatment. Notwithstanding the large number of cases treated, not one man, with a single exception, left the Hospital with loss or even impairment of vision, nor with a speck upon the cornea; a most gratifying result, considering the severity and extent of occasional corneal ulcerations of many of the cases. This success, I think, may be fairly attributed to the careful consideration of the requirements of each individual case, and the absence of the common routine practice too often followed in the management of this class of diseases, ending generally in disappointment to the surgeon and misery to the patients.

Except in severity, persistence, or complication,

the chief symptoms varied but little in each case. Those most complained of were a feeling as if some foreign body, as a grain of sand, or dust, were in the eye, increased lachrymation, great intolerance of light, and a hot, burning sensation when the eyelids were separated, occasional headache, especially at night. The vascular injection was generally found to commence in the palpebral, and gradually extend over the ocular layer of the conjunctiva. The congestion, though slight at first, became afterwards so great as to obliterate all trace of the vessels. The most common complication was the occurrence of one, two, or more, and for the most part three, small ulcers, situated almost always around the edge, or within the upper half of the cornea, and very rarely indeed were these found in the lower half. These are described by Morgan as "healthy ulcers of the cornea, not attended by discoloration nor loss of transparency in the part," and "appearing as transparent spots or depressions frequently only to be seen in a side view." In all the cases where the cure was slow, it arose from the constant recurrence of these ulcers almost immediately after the healing of their predecessors. In one case only, that of a highly scrofulous young man, did an ulcer of this description degenerate

into what may be called an unhealthy, sloughing state; which, however, by appropriate treatment,* did well, and left no trace behind.

The only case of loss of vision occurred in the person of an old, worn-out and free-livings oldier, who had previously lost his right eye in the West Indies. When admitted, the symptoms appeared slight, but during the night they had much increased, and by the next morning the cornea was found to be in a high state of inflammation, complicated with iritis. The most active remedial measures failed to make any impression, and unfortunately, the cornea gave way the following morning. This patient was eventually sent home as an invalid.

In the treatment of these cases my great object was to reduce speedily the *local* inflammation at as little expense as possible to the *general* strength. To attain this, lowering or antiphlogistic measures were employed with the greatest caution, and merely long enough to overcome the more acute symptoms; and instead of "the application of a large number of leeches round the orbit," a constant and regular drain upon the congested vessels was maintained by the daily application of one or two, seldom more

* Chiefly the daily instillation into the eye of pure cod-liver oil.

than three, and generally only one leech, to the inner canthus of the affected eye. If the cornea was free from irritation, a saturated and strained solution of acetate of lead was instilled into the eye every night and morning. When small ulcers or specks were present, the following collyrium was substituted:—

R Gum. Opii, gr. iv.
Sulph. Zinci, gr. x.
Aquæ Bullient. ʒj. M.

This, when cool, was also used twice a day. Small doses of rhubarb, carbonate of soda, and quinine were administered with the very best effect. Two very obstinate and protracted cases of strumous ulceration of the cornea eventually yielded to a course of iodide of potassium and tincture of iodine, and applied locally in the proportion of two grains of the former and half a grain of iodine to one ounce of distilled water.

To relieve the intolerance of light, ever a most distressing symptom, the extract of belladonna was rubbed around the orbit, and always afforded perfect relief, attributable probably to the sedative influence on the retina possessed by this substance.

Mercury was given only in two cases of iritis,

and one of severe corneitis, and of course with the usual marked effect on the inflammatory symptoms.

Each man was supplied with a separate basin, and had his own towel. All were given to understand that on the assiduity with which the warm-water fomentations were used depended the shortness or protraction of the cure, and the consequence was, that nearly the whole day was occupied in applying this valuable adjuvant, and with corresponding advantage over the disease and comfort to the patient.

The bowels were regulated by occasional doses of infusion of senna with sulphate of magnesia and quinine. All evacuants, emetics, indiscriminate use of mercurials, violent purgatives, general bleedings, blisters, setons, irritating ointments, and such like "heroics" were avoided; with what result the cases best show.

As soon as the more acute symptoms subsided, which generally took place in two or three days, the spoon diet was changed to low, and if this agreed, to half. The men, with one exception, were not confined to bed, nor yet to the ward, but exposure to moderate light and the cool, refreshing air, with gentle exercise during the mornings and

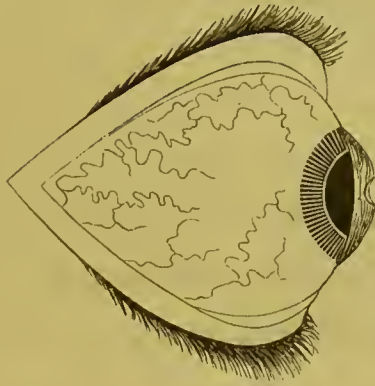
evenings, was permitted; and with the increased diet, &c., certainly did more good than “black draughts, leeches, and green shades” could have done.

When the patients, from long confinement or otherwise, became weak, or the appetite failed, and when the conjunctival membrane showed a disposition to assume a soft, velvety, and relaxed condition, solution of quina, or the muriated tincture of iron, was administered twice a day. I have not met with a single instance of what is termed “granular conjunctivitis.”

COMPLICATIONS.

C. What forcibly attracted my attention in the history of so many of these cases of ophthalmia was the occurrence of that peculiar complication occurring so frequently in northern countries, and nowhere, I believe, more so than in the British Islands. The complication I allude to was the frequency of phlyctenæ and of excavating colourless ulcers of the cornea—destructive ulceration, without much, or indeed any appearance of inflammation; a disease which in Britain much more frequently attacks children and young persons than adults. Here

in Ceylon it attacked the adult. It has sometimes been called the “transparent” ulcer of the cornea,



as it represents a transparent pit or depression of the cornea: and sometimes it has been called the “healthy” ulcer of the cornea—an appellation not strictly applicable to any spontaneous ulceration. Be this as it may, it gives rise to a trough or ulcer, always requiring very careful treatment. The ulcers have been usually considered as the sequelæ of phlyctenæ, but they are not invariably so. Whilst undergoing the process of filling up with a bluish lymph, the surgeon must be careful not to interfere with this process. On its success depends the safety of the eye. It is a critical moment for the patient, and an anxious one for the surgeon.

It is interesting to trace the steps adopted by nature to repair the loss in the cornea with the least detriment to the eye. At a certain moment,

which the constitution can alone determine, acted on by what Mr. John Hunter would probably have called "the stimulus of necessity," it commences the work of reparation—one or two pencils of fine vessels carrying red blood, shooting from the circumference towards a centre, that centre being the ulcer itself. A mass of pale bluish lymph is seen to fill up the excavation to a level with the healthy cornea. These vessels must on no account be interfered with. After a time they become pale, red blood ceases to circulate in them, and they finally disappear. By this time, or soon after, the lymph filling up the ulcer has lost its bluish colour, becoming as transparent as the healthy cornea, and the eye recovers its natural appearance. The frequency of these complications no doubt materially influenced my treatment of the disease. Four years' residence in Ceylon had not acclimatized the regiment in respect of the ophthalmia, nor so affected the European constitution as essentially to alter the character of a complication which many might be disposed to think peculiar to cold, or at least to temperate climates.

THE END.