

Illustrations

OF

HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

HULL GENERAL INFIRMARY.

LACERATED WOUND OF THE HAND: FRACTURE OF PHALANGES: TETANUS: DEATH THE THIRD DAY AFTER, AND TEN DAYS FROM RECEIPT OF INJURY.

Under the care of W. J. LUNN, M.D.

[Reported by C. J. EVANS, ESQ., House-Surgeon.]

THOMAS HUNT, aged 15, a rather delicate-looking lad, came to the Infirmary on August 26th, 1858, having met with an injury to his left hand in the machinery of an oil-mill. His hand was caught in the wheels when he was in the act of oiling them. There was a lacerated wound on each side of the back of the hand, between the second and third, and between the fourth and fifth, metacarpal bones. There were two corresponding wounds on the palm, that on the ulnar side communicating with the dorsal one through the hand; the transverse ligament between the heads of the fourth and fifth metacarpal bones being severed. A fourth wound existed at the root of the middle finger, partially exposing the flexor tendons; and there was also a wound of the index finger. The second phalanx of the middle finger was broken. Water-dressing was applied; but, although urged to do so, the boy would not remain in the house.

August 28th. He presented himself to-day, with the intention of remaining in, and was placed under the care of Dr. Lunn. The wound was looking pretty healthy. The water-dressing was continued.

August 31st. The middle finger looks rather as if it were about to mortify.

September 2nd. Mortification has advanced; so the finger, with the head of the metacarpal bone, was removed. The first phalanx was afterwards found to be partially fractured. He complains to day (eighth from injury) of stiffness about the jaws, and a difficulty in opening his mouth. The pupils are much dilated; his expression is anxious. The pulse is frequent, small, and feeble; the tongue coated. The bowels have not acted this morning, but were freely open yesterday. The fingers of the injured hand are contracted upon the palm. The patient was put by himself, in a quiet and dark ward.

Statum sumat calomelanos gr. x, et post horas quatuor pulveris opii gr. j.

6 P.M. No action of the bowels has taken place. An enema of castor oil and turpentine was ordered to be used immediately, and a draught containing half a drachm of laudanum to be given at night. Three ounces of wine were ordered.

September 3rd. He slept a little during the night, but the symptoms of tetanus are more marked this morning. There has been no action of the bowels, and no urine has been passed. The pupils are less dilated, but motionless. There is more rigidity of the facial muscles, with complete *risus sardonius*. The abdomen is as hard as a board, and the back is somewhat arched. The opiate draught and turpentine enema were repeated.

2 P.M. There is still no action of the bowels. Touching the injured hand produces immediate spasm. There is distinct opisthotonos; the right upper and the lower extremities are not affected. A catheter was introduced, and a pint of clear, high coloured urine, of strong violet odour, was withdrawn. The

injection was repeated with O'Beirn's tube passed high up the intestine, and some croton oil was placed on the tongue. Chloroform was administered at intervals, and a poultice was applied to the hand.

8 P.M. He has had one copious watery stool, containing scybala. He has bitten his tongue severely. A soft pill, containing a drop of croton oil, was put into his mouth; and the inhalation of chloroform was continued.

September 4th, 2 A.M. The enema was repeated, and urine was drawn off. The spasms have been less severe through the night, but have occurred every ten or fifteen minutes. His face is pallid and bedewed with perspiration. He can open his mouth a little more. He has taken three croton-oil pills in all, and has had six or eight copious loose evacuations, of dark green colour, like pea-soup. Wine and beef-tea have been frequently given, but he now refuses to take them; the least attempt to swallow producing immediate spasm. There is some tendency to priapism. Enemata of strong beef-tea were ordered to be injected. Two grains of calomel were ordered to be blown into his mouth through a quill every two hours. The poultice was removed from the hand; and lint was applied, previously soaked in a solution of extract of belladonna (ʒss to the pint). The wounds look sloughy. He asks for the chloroform to be given; and its inhalation is continued almost without intermission.

4 P.M. A marked change for the worse has come on. There is extreme pallor of face; the pulse is rapid, and very small and feeble. There is occasional spasm, but not very severe. A strip of lint, eight inches long, spread with a thick layer of extract of belladonna, was applied to the spine. He got worse, and died at nine in the evening. No autopsy could be obtained.

REMARKS. The histories, treatment, and results of the different cases of tetanus which have been reported, would seem to show that in apparently similar cases, with similar treatment, similar results are rarely obtained. One case recovers on one plan, and a second on a different plan; a severe case occasionally recovering under comparatively simple treatment, and *vice versa*; more cases terminating unfavourably. The administration of chloroform, though it does not diminish the severity of the spasm, certainly mitigates the acuteness of the pain, and has a very soothing effect upon the patient.

Original Communications.

ILLUSTRATIONS OF THE USE OF THE OPHTHALMOSCOPE.

By WILLIAM MARTIN, F.R.C.S., late Professor of Ophthalmic Surgery in the Calcutta Medical College.

It has for some time seemed to me desirable to collect together some of the most precise data that we have as yet been able to find recorded regarding the actual appearances, under the ophthalmoscope, of the characters distinctive of the various ophthalmic affections, the results of which are recognisable by the aid of this instrument. Notwithstanding the appearance from time to time of various valuable works on the subject, some of them elegantly illustrated, such as Jäger's Plates, with the annexed descriptions, etc.; others with elaborate descriptions of morbid appearances, as the last edition of Desmarres' *Treatise on Diseases of the Eye*, etc.—the student will have felt, as I have myself, the great difficulty of making an accurate diagnosis of the efficient causes of the loss of sight, and concomitant ophthalmic affections, by the method of examination with the ophthalmoscope. No doubt very great exercise with this instrument is required before its proper use can be mastered. It is probably as difficult, if not more so, to attain an accurate insight into the information that may be gained

by its use, as regards internal diseases of the eye, as it is for the neophyte to attain an accurate knowledge of diagnosis of diseases of the chest by the aid of the stethoscope. In addition, we must remark that the knowledge of its use may be said to be, if not in its infancy, in a state far removed from what we may hope will be the case when we have had time and opportunity for greater experience. It is still difficult to attain an accurate diagnosis of the several diseases of the posterior parts of the eye; to define accurately choroiditis, retinitis, etc.; to determine the actual causes of the innumerable conditions which we must still be content to call amaurosis, amblyopia, glaucoma, etc.

We may hope to be able to enlarge our knowledge by the opportunities now offered to all engaged in the study of ophthalmic surgery at the various special eye hospitals. Having enjoyed the benefits of the ophthalmoscopic department, as well as of the splendid collection of drawings and museum now in progress of formation at the London Ophthalmic Hospital at Moorfields, I have thought that a collection of some of the facts positively known on the subject might be useful in supplying a want that I have experienced in my own case in the study of the ophthalmoscope. The great desideratum at present is the accumulation of real facts; that is, the exact appearances indicative of the diseases of the several component parts of the eye. In the course of time, with the aid of a more exact knowledge of the minute anatomy, physiology, and pathology of the eye, such as we may hope to attain, but by no means so likely as by the collections now forming at the Moorfields Hospital and elsewhere, the facts which have been elicited by the observation and comparison of numerous inquirers will receive their due value; and we may expect as much success in the diagnosis and treatment of diseases of the eye by the use of the ophthalmoscope, as has been attained, since the time of Laennec, in the diagnosis and treatment of diseases of the chest by the use of the stethoscope, in combination with increased knowledge of general physiology and pathology.

In addition to the works of Desmarres and Jäger, above mentioned, the student and practitioner in ophthalmic surgery, who may not have varied opportunities of extending and comparing his acquisitions on this subject, as well as the kindred one of the anatomy and physiology of the eye, will find much useful information in Mr. Hogg's little work on the *Ophthalmoscope*, and in the several numbers of the London *Ophthalmic Hospital Reports*, which contain ophthalmoscopic illustrations, the researches of Hulke, Bader, etc. But, above all, his acquisitions would be increased by some time spent in the ophthalmoscopic department of that hospital, and in examining the collection of drawings and the museum now being formed, principally by the zeal and industry of the medical officers of that institution, and under charge of Dr. Bader, the curator, whose valuable services in improving our knowledge of this branch of science are bearing fruits in the admirable catalogue now in course of preparation, and cannot be too highly appreciated.

CRYSTALLINE LENS.

The information we are enabled to get with regard to diseases of the eye by the aid of the ophthalmoscope is not by any means confined to the fundus of the globe. We can ascertain the state, morbid or healthy, of all the parts which lie posteriorly to the cornea; and its use is particularly applicable with reference to the state of the crystalline lens and its capsule, and especially to the degree of transparency of these parts. Thus we are able to distinguish true from spurious *cataract* in any spots which there may be on the capsule, etc. Appearances, which on an ordinary examination we should be inclined to attribute to *cataract*, are often proved by a careful ophthalmoscopic examination to be due to disease, probably irremediable, of the posterior tunics of the eye. As regards *cataract*, we detect, in cases in which the disease has advanced to the slightest degree of impairment of vision, a certain amount of obscuration or interruption of the quantity of light which would otherwise pass to the fundus of the eye. The obscuration may be partial or entire, according to the amount of opacity. We also find, even in incipient cases, particularly near the margin, opaque striæ, and occasionally over the surface spots: in more advanced cases, the appearance of opaque septa, showing fibrous alterations of the lens; and between these opaque striæ or septa are generally seen pretty transparent intervals. We find also frequently, after synechia posterior, patches of pigment which have become detached from the uvea, lying upon the anterior surface of the capsule;

so that by this means we are enabled to detect with certainty alterations constituting *cataract*, which would not be always ascertainable by means of a magnifying lens, or by the catoptric test. We also detect in the lens the presence of *cholesterine*, and the different *foreign bodies* which it may contain, as animalcules, etc.; the peculiar change of the lens which corresponds with the arcus senilis of the cornea (Desmarres); also any form of *dislocation of the lens*, entire or partial; and it is not necessary that there should be any loss of transparency in the part in order that we may detect it.

VITREOUS HUMOUR.

In inflammation of this part, which almost always accompanies that of the deep seated tissues of the eye, we find a general obscurity of the part, and often a quantity of flocculent shreds, whitish, often in constant movement. In this state the natural bright pink colour of the fundus is not reflected, but gives place to a dull yellowish-white appearance, and the optic papilla* and macula lutea are more or less obscured. Then we may have purulent and other deposits. In *synchysis* of the vitreous body, we find the flocculent shreds move very rapidly to the lowest place.

In the changes of the humour which accompany a *syphilitic condition* we constantly find flocculi—in reality white, but from the blaze of light present during the examination, appearing black—constantly moving in all directions with the movements of the head. Others have a white or grey appearance. These are to be seen also as a result of iritis and other internal inflammations. They are not generally to be seen by the patients themselves.

There is also a condition of the vitreous humour which is described by Desmarres as *jumenteur*. He states that it is often present in inflammation of the deeper textures. There is a general turbidity, with numerous dark points in motion.

It is to be remarked that the impossibility of lighting up the fundus in cases where the lens and capsule are clear is not always to be attributed to disease of the vitreous body. There may be disease of the hyaloid membrane, or there may be infiltration from extravasated blood, or from what has been described as flakes of exudation. Sometimes, without any very apparent cause, as of the states of disorganisation before alluded to, all the light seems to become absorbed, so that there is no reflection of light whatever from the fundus.

Extravasations of blood, when found in the vitreous humour, may be from the retina or choroid. We generally see the clot low down, behind the lens, and it may be of a bright red colour. If it be from a retinal vessel we may be able to trace its origin by finding a black spot on the track of one of the vessels at the fundus, after time enough has elapsed for some clearing to take place; but if from a choroid vessel, we find deep seated ecchymosis, without a spot on a retinal vessel.

Various *floating bodies* are observable throughout the vitreous humour. These may have a motion corresponding with the ordinary movements of the eye; that is, as the patient moves his eye upwards they will be seen to move downwards, and *vice versa*; or they may move in the same direction as the globe. This would depend upon the comparative densities of the bodies and the vitreous body; if lighter than the vitreous they will be carried along with it. This is the case with the floating particles which we so often see in disease arising from a syphilitic condition. The more dense bodies, as some forms of muscæ volitantes, etc., are seen, after motion, to sink to the bottom of the humour. These may or may not be perceptible to the patient.

We may also find the various kinds of *parasitic animalcules* (cysticercus, etc.); and it would appear that none of the internal parts of the globe are free from being infested with these objects. They are found even in the retina.

We may also find many *foreign bodies*, pieces of iron, stone, which may be projected to that extent. These may become fixed to the sides or may float through the substance of the humour. In either case we shall find them often surrounded by a membraniform exudation.

Cases exemplifying all these are related by Anagnostakis Ruete, Gräfe, and other authors.

[To be continued.]

* Optic nerve entrance would probably be a more correct designation, as there is in reality no prominence at this part; but as the term optic papilla has been generally accepted, I shall continue to use it in this memoir, for the sake of convenience.