Cases in ophthalmic practice : with notes and observations / by Edward Nettleship.

CASES IN OPHTHALMIC PRACTICE, WITH NOTES AND OBSERVATIONS.

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I.—Cases of Syphilitic Choroido-Retinitis.

The cases of choroido-retinitis given below are recorded in illustration of the following among other important points in the natural history and prognosis of this grave but rather rare manifestation of secondary syphilis:—

1. Syphilitic retinitis is so often associated with demonstrable choroiditis, that, in those cases where no choroiditis can be proved, it is highly probable that this condition is present, either in a degree too slight to cause positive changes, or in parts of the fundus which cannot be reached in ophthalmoscopic examination.

2. The choroiditis here referred to generally affects only the inner (capillary) layer of the choroid, and the pigment epithelium. The ophthalmoscopic changes produced by it are comparatively slight, and sometimes escape notice unless carefully looked for. It may occur at any part of the fundus. Sometimes it appears to be localized in a zone around the optic disc, whilst occurring separately in other parts; in other cases the disc is situated in a large unbroken area of choroidal disease.

3. These facts, together with the close dependence of the outer layers of the retina on the blood-supply of the chorio-capillaris, make it probable that the retinitis of syphilis is in a very large number of cases, if not always, secondary to superficial choroiditis. The occurrence of neuritis with the retinitis is readily accounted for in the same way, for the disc is to a large extent

supplied with blood by the choroidal vessels; and hence any active change in the choroid where it surrounds the disc is very liable to extend into it.

The degree of neuritis accompanying the retinitis is subject to considerable variation; as a rule, it is expressed by slight haziness, but patches of opaque white lymph are sometimes seen: there is seldom much swelling.

4. Syphilitic choroido-retinitis is almost always symmetrical, and sometimes even affects almost exactly corresponding parts of the two eyes. It always begins in the secondary stage, though as a rule rather late, *i.e.*, when the sore throat, skin eruption, and iritis are declining; I believe it never sets in later than about eighteen months after the primary disease, and commonly it is a good deal earlier. It occurs quite independently of iritis. When both diseases come on in the same eye the iritis generally precedes the choroido-retinitis, but sometimes the order of events is reversed.

5. In this form of choroiditis large patches or areas of the choroid suffer superficially, and the atrophy which follows absorption of the inflammatory products affects only the innermost layer of the membrane. Other cases of syphilitic choroiditis are seen with smaller patches abruptly circumscribed, and involving the whole thickness of the tissue, the resulting atrophy being complete; these are, as a class, much less formidable, because the nutrition of the retina is less interfered with; indeed they are, I believe, seldom accompanied by retinitis of the diffuse and generalized form met with in the cases which supply the matter for these remarks.

6. It is well known that syphilitic retinitis shows a remarkable tendency to relapse many times during its course. To this we must add that, besides the temporary exacerbations, it often progresses slowly through many years to a condition of atrophy, with shrinking of the retinal blood-vessels and accumulation of pigment, especially in their sheaths, so that finally the appearances bear a certain resemblance to those of true retinitis pigmentosa. It is probable that these degenerative changes are, in the main, commensurate with the severity and extent of the choroiditis.

7. The defect of sight in early stages is often greater than would be expected from the very slight degree of retinal haze found on ophthalmoscopic examination. There is, even at a

comparatively early period, a marked tendency to diminution of the retinal arteries, contraction of the visual field, and night blindness.

8. Inflammation of the vitreous is a common but not invariable consequence of the choroido-retinitis. The fact is often shown by the presence of large slowly moving opacities, or of numerous very small ones. But in other cases the vitreous, without containing any opacities which are separately visible even on most careful examination, and without losing much of its translucency, becomes so hazy that none of the details of the fundus can be seen, although the general red reflex from the choroid is but little diminished. We must suppose that in these cases there is a uniform infiltration with cells, or with fluid which, without being opaque, differs widely in refractive power from the vitreous itself, and breaks up the light somewhat as happens when two such fluids as glycerine and water are shaken together. It is most likely that rapid alterations in the state of the vitreous, perhaps in its outermost layer in the region of the optic disc, account for the frequent and often very rapid alterations of sight in cases of syphilitic retinitis.

9. Mercurial treatment is often followed rapidly by brilliant and probably permanent results in syphilitic retinitis. But in not a few cases mercury, though carefully administered for many months, or even much longer, fails to prevent the disease from passing into the degenerative type above mentioned. In my own experience the most intractable cases have been in patients who have contracted syphilis rather late in life, or in women who showed signs of early senility.

10. In these unfavourable cases the eye disease has not, so far as I have seen, been accompanied by intractable syphilitic symptoms elsewhere; and the other secondary symptoms, though well marked and sometimes decidedly bad, have shown no excessive severity.

11. It would be interesting to note whether the superficial form of choroiditis is ever serpiginous. It has never occurred to me to observe that it was so, but careful diagrams of the diseased areas taken at different dates would alone decide the point. The sinuous map-like outlines of the patches are often exactly like those of serpiginous tubercular eruptions on the skin. It is interesting to note, in regard to treatment, that the

local use of mercury, which is often very important in the cure of the more chronic skin syphilides, cannot be brought to bear on the choroid.

CASE 1.—*Syphilitic Retinitis and Inflammation of Vitreous in a highly myopic woman. A three months' course of mercury. Unfavourable progress. Note of condition a year later.*

Jane I—— had syphilis at æt. 42, and was for about three weeks under treatment for the skin eruption at the Blackfriars Hospital, whence she was sent to the South London Ophthalmic Hospital by Dr. Baxter early in *February*, 1877, on account of her eye symptoms. She had taken mercury and iodide for three weeks.

I found that she was very myopic (more than $\frac{1}{3}$) in each eye, but with an amount of defect which was not accounted for by the myopic changes. A few days later, *February* 12th, her sight was still worse in the *left*, and on more careful examination I obtained the following results :—

L. eye.—Well-marked diffuse retinitis, without opacity of media and without hemorrhages; a myopic crescent; some doubtful choroiditis at the upper periphery. R. eye.—A large myopic staphyloma entirely surrounds the disc; some small spots of choroidal disease, which may be either syphilitic or caused by the myopia, between the disc and the yellow spot.

To continue mercury (gray powder in two-grain doses three times a day) and iodide, but both in rather larger doses than she has been taking at the Skin Hospital.

February 19*th.*—Gums swollen and tender; omit mercury.

March 3*rd.*—V. worse, especially in R. It has varied several times in the past week. R. barely 16 Jaeger at 4″; L. barely 10 Jaeger. Vitreous of each now full of fine films. In the R. there are some small whitish spots in the *retina* in a horizontal direction from the disc to the yellow spot, in addition to slight choroidal disturbance. Disc rather pale in each eye. Pupils large and sluggish, though no atropine has been used. Continue mercury once a day.

14*th.*—Salivated. Mercury omitted. 19*th.*—Mercury resumed and quinine added. Aching of the eyes, which throughout has been troublesome, is now worse, and there is some photophobia. Pupils as on 3*rd*. Wear a shade.

April 3rd.—Iodide increased from five to ten grains.

17*th.*—V. much better all day.

18*th.*—V. failed again.

28*th.*—Has now taken mercury for ten weeks at least, with the exception of two intervals each of about a week. Omit mercury and iodide for two weeks.

May 14*th.*—V. barely letters of 16 J. Pupils still large and sluggish. Mercury resumed. I did not see her again until I began work at St. Thomas's, when I found her attending among the old cases. She had not, whilst at St. Thomas's, taken anti-syphilitics. Her sight and the ophthalmoscopic changes are about the same as when I saw her last a year ago. Still subject to variations of sight.

CASE 2.—*Severe symmetrical disease of Vitreous with Choroiditis, and probably Retinitis, at an early stage of Secondary Syphilis. Keratitis punctata in one eye; Iritis following the deep-seated disease in the other. Cortical dotted Cataract. Nearly two years' treatment by mercury and iodide; condition not permanently improved.*

Mary O——, 50, married, a laundress, had syphilis from her husband early in the spring of 1876 with sore throat, sore tongue, and a few spots on the arms.

On *June* 13*th* she came to the South London Ophthalmic Hospital, complaining that for three months she had had a "flittering" or "cobweb" before her sight. There were many bald patches on her tongue, and a few dusky stains on the fore-arms (but more on the backs than the fronts).

V. { R. eye, 20 Jaeger.
{ L. eye, counts fingers, but only by moving her head about.

Pupils act slightly.

R. eye.—Vitreous full of large floating bodies. Slight keratitis punctata, with brownish dots placed rather above the centre of the cornea. A few peripheral striæ in the lens.

L. eye.—Vitreous as in R. Many striæ and numerous small specks in the cortex of the lens, extending over the pupillary area. No iritis nor keratitis punctata. The fundus can be seen in both eyes, but very dimly.

June 24*th.*—She thinks her sight worse. The vitreous was

now so hazy that no details whatever of the fundus could be seen; the vitreous appeared to be full of fine "dust-like" opacities, for only a very few of the large films visible at the former date could now be seen.

July 1st.—There is now iritis in the L.; an adhesion and slight ciliary congestion.

August 25th.—V. very little better. L. eye examined under atropine. Abundant, dense, beaded strings in the vitreous. Many patches of choroiditis disseminata at the lower part of the periphery, some atrophic, others apparently in the exudation stage. Disc doubtfully pale, and retinal vessels slightly diminished.

October 10th.—Complains that her sight varies on different days.

November 14th.—V. letters of 16 Jaeger.

December 12th.—Worse; cannot make out 16 Jaeger.

March, 1877.—Sight has again relapsed.

May 15th.—Spells 16 Jaeger.

July 17th.—V. had been much better, so that she could see to do her ironing. A few days ago it again relapsed, and to-day she can barely spell 16 Jaeger.

November 13th.—V. again dimmer for the last few days.

April 16th, 1878.—V. had been much better lately until to-day; to-day (a very dull day) she sees only 16 or 18 Jaeger.

She is a dark complexioned, thin, rather small woman, and has long ago lost all her teeth.

For the first fifteen months of her attendance she took gray powder, in from two to three-grain doses, sometimes twice, sometimes thrice daily, without intermission. Since July, 1877, the dose has been reduced to one grain daily. She has also almost uninterruptedly taken iodide in from five to ten-grain doses. Small doses of quinine were also given for a considerable time. She is still (July, 1878) under treatment.

CASE 3.—*Symmetrical Retinitis late in Secondary Syphilis. Choroiditis. Frequent variations, but on the whole, steady and great deterioration in spite of very prolonged mercurial treatment.*

Mrs. D,—— dark complexion, suffering habitually from cold feet, and looking more than her age, had syphilis fully at the

age of 34. Her retinitis appears not to have set in until about eighteen months afterwards, and I first saw her at the hospital at the beginning of *October*, 1876, when her sight (already defective from corneal opacities) had been failing, especially in the R. eye, for about three months. She was then 36. There were central nebulæ on each cornea from former ulceration, and an artificial pupil had recently been made in the L. eye.

On admission, October 2nd, 1876.—V. of R. eye, 10 Jaeger at 8″. and $\frac{20}{200}$, very slightly improved by + 40. L. eye.—No note of precise vision.

Sight stated to be much worse at night. Defect much greater than would be accounted for by the corneal opacities.

Well-marked plum-bloom haziness of each retina in the optic disc region. Some dull mottled blotches, apparently indicating recent choroiditis, at the periphery. Vitreous clear.

January 22nd, 1877.—L. eye worse for about a week past; she now cannot see so well with it as with the R. She can now hardly see to find her way about.

July 23rd.—Relapse in R. eye for about ten days past; V. much worse. Retina very hazy all around the disc. Has had no mercury for two to three weeks.

October 8th.—V. worse again for the last week. For a month before that, it had been so much better that she had been able to do needlework. She attributes the relapse to having left off mercury for a week. Sometimes has a good deal of pain in the temples.

February 18th, 1878.—Much worse the last two weeks; can hardly guide herself even by daylight. Much haze of the retina at the central part of the fundus in both eyes; in the R., the haze extends in parts as far as the periphery. Taken into the hospital.

March 11th.—V. much improved in daylight, but visual field contracted that she still cannot walk about safely. With each eye she can make out words of Jaeger 10 (was never a fluent reader).

March 18th.—Since the *14th,* the L. eye has been almost blind again, and the R. much worse. Has had "a sort of fluttering before the eyes" and some frontal headache, but no pain in the eyes

V. { R. barely letters of 18 Jaeger.
L. shadows only.

Fundus in each very hazy, especially in the L. No proof that the vitreous is hazy in either eye. Is slightly salivated.

May.—She is still under care.

Treatment.—Mercury (gray powder) in varying doses, has been continued during the greater part of her eighteen months' treatment. She is easily affected by it, and has been repeatedly salivated more or less.

When much salivated she has generally left off the mercury for a short time ; since January last it has been continued in one-grain doses, from one to three times daily without interruption. Iodide of potassium (from five to fifteen-grain doses) was given for the first year. For the last few months she has been taking iron instead of the iodide. Small doses of quinine were given, in combination, for some time.

Her health has not suffered in any marked degree ; indeed, she has improved in appearance since the iron was substituted for iodide. There have been no other syphilitic symptoms, except some sores on the tongue, whilst under my care.

CASE 4.—*Symmetrical diffuse Choroiditis with Neuro-Retinitis, early in Secondary Syphilis. Deterioration of Sight. Relapses of Ulcerating eruption and birth of a still-born fœtus whilst under anti-syphilitic treatment. Cortical dotted Cataract.*

Mrs. S——, 38, dark complexion and hair, had primary disease about July or August, 1876. Her constitutional symptoms began about September with great pain and some swelling of the R. elbow and hand ; "rheumatism," (she had never before had rheumatic symptoms). Then she had a rash "like small-pox," chiefly on the head, in the armpits and between the toes, with abundant falling of hair, sore throat, and (from description) condylomata at the anus, and her eyes inflamed, and the sight failed. She was treated at the Waterloo Road Dispensary , but I could not ascertain whether she took mercury.

She came, on account of her sight, to the South London Hospital on *Nov. 6th*, 1876. There were still sores at the angles of the mouth. She had lost much flesh since her illness began. There had been no material pain in the head.

The eye symptoms began from one to two months before I

saw her, *i.e.*, probably within three months of the chancre. At first both eyes were "inflamed," and there was some gummy discharge. Then the sight failed, especially in the R. eye, but without any special variations from day to day.

On admission.—V. 16 Jaeger barely, with each eye, but better with the L. than the R. Pupils active, and no traces of iritis discoverable after atropine. In each lens numerous very white opacities just beneath the capsule towards the equator, most abundant at the temporal side in each; the opacities are not pointed striæ with hard outlines, but rather oblong spots, blunt or rounded at each end and with rather woolly borders. Diffuse neuro-retinitis and extensive choroiditis in both. Discs slightly swollen and very hazy, the haze extending for some distance into the retina, the yellow-spot region looking slightly "dappled." Retinal veins a good deal distended and tortuous; arteries considerably diminished. All these changes more marked in the R. eye, where the colour of the disc was changed to a grayish-yellow and a patch of whitish lymph was present on its surface. There were no hemorrhages. The peripheral parts of the retinæ were quite clear.

The *choroiditis* was shown by the presence of large tracts, or of partly confluent grayish-yellow spots, over which the pigment epithelium was collected into little black dots, which contrasting with the paler back-ground, gave the impression of coarse pepper; occasionally the pigment was arranged in somewhat linear figures. The disease was chiefly in the equatorial region and its anterior limits could seldom be reached; in each eye one tract of it reached nearly up to the disc; a certain tendency to arrangement in *antero-posterior* sectors was observed. In the L. eye one or two whitish patches were present close to the *y.s.* There was nowhere any exudation *upon* the choroid nor any proof that the diseased areas were raised; but the varying tints of the choroidal stroma exposed by the disturbance of the pigment epithelium,—in some parts grayish, in others yellower or whiter,—made it probable that though partial atrophy had set in, there was still interstitial exudation in many parts. At this date I noted, "it will be interesting to see whether the retina over the diseased areas becomes atrophied and pigmented."

The state of the vitreous was not actually recorded till some days later, when it was found quite clear in both eyes; I have no doubt it was equally clear at the first examination.

January 16*th.*—V. neither worse nor better.

August 14*th.*—V. barely 10 Jaeger; it has been, and still is, liable to vary on different days, sometimes in one eye, sometimes in the other. It is much worse at night, so that she dare not then go out alone. She has just been confined of a dead 7*th mo.* child, and has had some fresh ulcers at the back of the scalp.

January 5*th,* 1878.—V.—R. eye, letters of 16 Jaeger.

L. barely letters of 20 Jaeger.

She is now under the care of Mr. Waren Tay, at the Blackfriars Hospital, for ulcers on the left leg.

Ophthalmoscopic examination :—

R. eye.—O.D. still somewhat swollen and streaky; retinal arteries moderately diminished. Retina at *y.s.* still rather hazy. The choroidal disease appears not to have extended, and though it comes up to the border of the *y.s.* region, has not invaded the *y.s.* itself.

L. eye.—O.D. practically healthy and retinal vessels not materially altered in size. The choroidal disease much less abundant than in the R., the greater defect being probably due to the little patches originally noted at the *y.s.*

My notes, made independently at this examination, state that the choroidal disease is shown mainly by abundant spots and dots of black pigment on a ground-work of general epithelial denudation; that some of the pigment is in angular figures, and that much of it is probably in the retina. The distinct tendency in the R. eye to arrangement in sector-like figures corresponding to the retinal circulation is again noted.

Treatment.—She took mercury in small doses, from admission till the end of September, 1877, with the exception of a few weeks, *i.e.*, in all for about eight months. She was easily salivated and purged. She also took iodide in five-grain doses during almost the whole time. She is, I believe, still taking specifics for the ulceration of her leg.

CASE 5.—*Severe symmetrical Choroiditis (with Retinitis in one eye), in the Secondary stage of Syphilis; Congestion of eyes in the early stage. Patient, an old woman.*

Elizabeth W. had syphilis rather severely at æt. 67, the evidence being that the chancre was on the cheek, and accom-

panied by much enlargement of the submaxillary lymphatic glands.

Sep. 30*th*, 1875, æt. 67, admitted under my care at the Blackfriars Skin Hospital, with a fading secondary papulo-tubercular rash, ulcers on the tongue, and ulceration and enlargement of the tonsils. Her hair had fallen out, but grown again. The sore in the cheek occurred eight months ago, and the submaxillary bubo suppurated, and left a scar. She stated that for a fortnight past her sight had been failing; there was on admission some congestion, chiefly conjunctival, but no evidence of iritis. She took mercury (two-grain doses of gray powder twice a day) for several months, though as she attended at rather long intervals I do not feel sure that the course was quite unbroken.

April 20*th*, 1876.—She still complained of defective sight, especially in the R., and I therefore sent her to the South London Ophthalmic Hospital, and made a careful examination two days later.

V. { R. shadows.
{ L. 4 Jaeger with her spectacles.

Pupils active. After atropine, no trace of iritis.

R. a central nebula of cornea from a scratch 15 years ago, since which the eye has been defective. Slight nuclear haze of lens. Many thin webs floating in the vitreous. O.D. slightly pale and hazy; the retinal arteries and veins decidedly diminished. Very extensive choroiditis disseminata in large patches, many of which have become confluent. The disc is entirely surrounded by diseased choroid. It is all in the atrophic stage, but the atrophy for the most part affects only the chorio-capillaris; only here and there is it complete. Considerable pigmentation.

L. Media clear, excepting very slight haze of lens. Choroidal disease as in the R, but less extensive, and not involving the *y.s.* itself. A portion of the disease is still in the exudation stage, whitish and hazy, the overlying retina not being materially altered. O.D. little, if at all changed, and retinal vessels normal. (Compare Liebreich's Atlas, Pl. V., Figs. 1. and 2.)

She lived in the country and could not come again, but I directed her to continue the mercury for a considerable time longer.

Her case is also of interest as probably an example of syphilis propagated through a family,—from father to wife, children and

grandmother—by contagion from the mouth, an occurrence seldom seen in this country. The patient, who lived with her married daughter in a country village in the west of England, and who from first to last had not the slightest idea of the nature of her malady, gave the following history :—Her son-in-law had a sore on one finger (attributed to a dog-bite) ; the finger was bad for several months, and the man had spots on the skin and a sore mouth. His wife next had a similar rash and sore mouth, and subsequently, at different times within about two years of the father's disease, four of the children suffered from what appear to have been syphilitic sores on the tongue. The patient had gone to live with the family about ten months before I first saw her, and it was after about two months' residence that she had the sore or "abscess" in her cheek, and the submaxillary bubo which preceded her own syphilitic rash and choroido-retinitis.

CASE 6.—*Symmetrical Syphilitic Retino-Neuritis, with progressive failure of sight. Duration of disease probably two years. No improvement under a four months' mercurial course. Central Choroidal disease in patient's father.*

John S., 39, a soldier, came under care in *November*, 1876, for defective sight dating about two years back ; his sight was especially bad at night, and the defect had increased lately, so that for four months past he had been excused from duty. With both eyes open he could manage to see 8 Jaeger, but with each separately he could only puzzle out words of 10 Jaeger.

There was diffuse haziness of the retina and optic disc, with pallor of the disc ; the haze involved the *y.s.* in each. In the R. the retinal arteries were considerably diminished ; but in the L., where the retinal haze was considerably less, they were but little altered. There was some rather doubtful choroiditis in both. In the R. vitreous were a few slowly moving dots. There were the remains of iritis in both eyes, and he gave the history of an inflammatory attack two years ago, at which time the sight began to fail.

There was no other evidence that he had had syphilis, but he admitted frequent risk of contagion.

He took mercury regularly for four months, and was at one time slightly salivated ; his sight remained exactly the same when last seen.

His father, æt. 75, was under notice at the same time with

choroiditis of a very gross kind at the *y.s.* region of each eye, dating from ten years back, and with the history of sudden failure. There was no reason to think it syphilitic; it was very probably caused by hemorrhage.

CASE 7.—*Symmetrical Choroido-Retinitis in Secondary Syphilis, whilst under treatment by mercury; progressive failure, with variations, during many years. Great pigmentation of sheaths of Retinal veins. Myopia. Inflammatory symptoms in the early stage.*

Fanny T., a very intelligent woman, corpulent and nervous, had syphilis with rash, sore throat and sores in the mouth, at the age of 30. She also had inflammation of the L. eye with much pain and redness; it was probably a sort of cyclitis accompanying the choroiditis, &c., to be described below, for, by the most careful examination, I failed when I saw her, to find the least trace of a former iritis.

She took mercury (blue pill) for nearly two years under the care of a well-known practitioner, and it was while under treatment that her sight began to fail in both eyes. It was, from the beginning of the failure, worse at night. The failure continued, apparently with periods of improvement, until she came under my care in *October*, 1876, at the age of 42, twelve years after her primary disease.

She now applied because the sight had become decidedly worse during the past six weeks; so that whilst, till then, she had been able to read and write a little by artificial light, she could now no longer do so. She has had no children since her syphilis.

There had been no other syphilitic symptoms, nor had she had any relapses of inflammation in the eyes. She had been in the habit of taking a course of her mercurial pills whenever her sight was worse, and believed that they did good; she thought that latterly they had lost their effect.

On admission.—V.—R. eye, 6 Jaeger held very close not $\frac{20}{200}$; with $-18 = \frac{20}{50}$.

L. eye counts fingers, on the temporal side only.

Very abundant old superficial choroiditis disseminata in both eyes, with pigmentation of retina. In the R. eye the disc is of good colour and the retinal vessels are unaltered; the choroidal disease is extremely abundant in all parts of the fundus including the *y.s.* region, in the form of round patches of epithelial

denudation with incomplete atrophy (atrophy of chorio-capillaris). The special feature is that all the retinal veins are encased and nearly concealed by pigment from a distance of two or three disc breadths from the disc as far as they can be traced towards the periphery; the vessels do not appear to be contracted in calibre. The ensheathing pigment gives off little processes on each side, which project into the neighbouring patches of choroidal disease, and many of these are curved or looped; the whole appearance may be compared to a line of partial fracture in glass, or some kinds of stone, where little conchoidal splinters border the whole length of a large crack. None of the arteries are pigmented. In the L. eye the choroido-retinal changes were similar, but less extensive; the disc, however, was very pale and its margins irregular, evidently from former neuritis, and at the *y.s.* there was a gray-white patch of fibrous tissue on the choroid, showing that the choroiditis there had been very severe; the retinal arteries were somewhat diminished. In neither eye was there any *generalised* pigmentation of the retina between the large vessels. The vitreous was clear and the retina everywhere *in situ* in both eyes.

CASE 8.—*Symmetrical progressive Choroido-Retinitis, probably beginning in the Secondary stage of Syphilis.*

Louisa B., married, but many years separated from her husband, had iritis in the L. eye, with falling of hair, at æt. 43; she denied having had either rash or sore throat.

Her sight began to fail at the time when the iritis occurred, and appears to have been getting worse ever since. Latterly there has been distinct night-blindness. For a month before I saw her she had been getting deaf.

On admission.—Æt. 47; old iritic adhesions in the L. eye. Media clear in both eyes. Abundant choroido-retinitis disseminata with waxy atrophy of the discs; great contraction of the retinal vessels, the arteries in the R. being barely visible. The choroidal disease was partly in round spots with or without pigmentation, partly in less regular pigment patches and spots approaching retinitis pigmentosa in distribution and character; in the R. there was pigment along some of the retinal vessels. There was considerable deafness, but I had no opportunity of having it investigated.

CASE 9.—*Slight Iritis followed by Choroido-Retinitis and Neuritis, beginning in Secondary Syphilis. All the changes confined to one eye, and slowly progressing to an atrophic condition, with contraction of field. Prolonged anti-syphilitic treatment, apparently without much effect.*

Henry H., a carpenter, with fair hair, rather delicate and very nervous, was under my care for mild syphilitic iritis in the L. eye only, at æt. 32, in the spring of 1876.

On *Feb. 3rd*, 1877, he came again, saying that the eye had been "slightly weak" ever since his former attendance, but that for two weeks past these symptoms had increased and he had had difficulty in using his eyes for long together, as if from accommodative failure.

V.—R. eye, 1 Jaeger easily, and $\frac{15}{30}$ well.

L. eye, 2 Jaeger barely, and $\frac{15}{40}$ badly.

L. eye very slightly congested; he complained of "a little quivering" before this eye, varying at different times but never absent. Pupil of the same size as the other and freely moveable; it dilates fully to atropine, and there are no traces of the iritic attack, to the occurrence of which my former notes testify. With the ophthalmoscope only slight and rather questionable haziness of the O.D. and retina was found.

April 28th.—L. eye, very decided haze of disc and neighbouring retina; disc redder than the R. The R. disc is clear and quite different from the L.

July 14th.—L. eye, still liable to the "flickering;" V. becomes duller, as a rule, every evening; and yet the eye is "weak" in sunlight. He has often noticed that it ached and became red if he lay down for a time. Well-marked choroiditis with neuro-retinitis. Disc hazy, and redder than the R., with tortuosity and some enlargement of both arteries and veins; *y.s.* region dull, even in the erect image; no opacities proved in the vitreous. A large number of thickly-placed spots of disseminated choroiditis of the lower-inner part of the periphery, in the form of smallish pale spots not sharply defined, apparently in the exudation stage; the overlying retina not definitely hazy. The haziness at the disc, when carefully examined, is seen to be seated deeply beneath the vessels, and is formed, or accompanied, by a halo of pale colour, apparently in the choroid, immediately around it (deep circum-pupillary haze).

Feb. 9th, 1878.—He thinks the eye is, on the whole, about the same. V. still liable to variations; on some days he can read with it, on other days not. To-day he read words of 2 Jaeger with it, but he can only see just what he looks at, the lateral parts being misty, "as if a web was over them." Pupil does not now contract to bright light so fully as in the other eye. Disc now slightly *pale* as compared with the other; the part next the *y.s.* is quite clear and sharply bounded, but the remainder is hazy as before, and its border scarcely visible, the haze being still beneath the vessels. The arteries are decidedly diminished, but some of the vessels are still more tortuous than in the other eye. No disease at the *y.s.* Numerous white spots of partial atrophy of choroid in the position formerly mentioned.

Treatment.—Small doses of mercury taken regularly, with the exception of about two months, for a year, with small doses of iodide most of the time, and quinine part of the time. He was very intolerant both of mercury and iodide, being extremely depressed by them and liable to attacks of shivering and great lassitude, unless the doses were carefully regulated.

CASE 10.—*Choroido-Retinitis disseminata in one eye only, one year and a half after Syphilis. Great contraction of visual field and some night-blindness. Rapid improvement of sight under anti-syphilitic treatment. Relapse of chancre while under treatment.*

Joseph B., 32, a shop-assistant, with gray irides and almost black hair, was admitted on *December 16th* 1874, on account of his right eye. It had been failing about six months, and his account was that there was now "a small spot of light in the middle and all the rest dark," and that the sight was worse in the evening. I found the visual field extremely contracted, measuring scarcely two inches in each direction (taken at a distance of two feet from the eye). Ophthalmoscopic examination showed extensive choroiditis disseminata with retinitis; the margins of the disc obscured by deeply-seated haze which scarcely clouded the retinal vessels; general haze of retina, especially near the disc; very abundant, round, yellowish-white spots of recent choroidal disease over the central and equatorial parts. There was no pigmentation of the choroidal spots; most were separate, some more or less confluent, and there was in many parts a general pallor of the

choroid between the spots, as if from diffused deposit. From the ophthalmoscopic characters of the choroidal disease, it seemed evident that the changes were recent and due to deposit, not to atrophy. I thought that I could make out the elevation of some of the round patches by a shadow on one side of them. The fundus of the other eye was healthy.

The patient had a chancre, and probably mild constitutional syphilis, two years before he came to the hospital, or eighteen months before his sight failed; he was salivated for about three weeks, as he believes, by mercury.

I prescribed five grains of iodide of potassium and $\frac{1}{16}$ grain of bichloride of mercury three times daily, and he improved quickly. On December 30th he "believes his vision better." January 23rd, "Field of vision much larger at temporal side, and slightly so in all other directions. Slight salivation. Has taken no medicine for a week." Medicine resumed. February 20th, "Visual field of normal size in the upper and temporal quarters, nasal quarter quite wanting up to the centre, lower quarter wanting to within three inches of centre. Relapse of his chancre at roll of prepuce." Medicine continued, and black wash for chancre. March 10th, chancre well.

He has not attended since, and I have failed to trace him. Unfortunately no ophthalmoscopic examination was made after his first visit.

CASE 11.—*Symmetrical Choroido-Retinitis late in Secondary Syphilis. Variations of sight. Great improvement of sight and health under a three months' course of mercury. No disease of Vitreous.*

Phœbe R. had a "diphtheritic" sore throat lasting two months, with falling of hair and "piles," beginning in *March*, 1875. The "piles" (probably condylomata) lasted till she came under care. She had no rash.

About *June*, 1876, she was confined of a girl after an interval of five years. (The child suffered severely from congenital syphilis, and was under my care for severe iritis of its L. eye, with vascular nodules of lymph in the pupil. When three weeks old it became suddenly paralyzed in the R. arm after having been carried to church to be christened; when I saw the child at æt. 5 months the arm had regained power and showed no changes;

there seemed no reason for connecting this attack with the syphilis.)

Mrs. R. began to notice "black specks" before her sight soon after this confinement, but they passed off again. About five months after the confinement, whilst engaged at some unusually fine sewing, she suddenly noticed she could not see the seam, and found the R. eye defective. Although at this time attending with her infant, she made no complaint till three weeks later, viz., on—

Dec. 5th, 1876, when with the R. she could see only large objects, and retinitis was found. Her age at this time was 42. She was in bad health, and complaining of pain and weakness in the wrists and elsewhere, with slight swelling of the painful joints. On *6th* the L. also failed in sight.

A more detailed examination was made on *Dec. 13th*, when under the use of mercury the sight of both had already altered for the better, and her health had begun to improve. No iritis. Media perfectly clear. Conditions symmetrical, but the changes more abundant and advanced in the R. Disc pale and hazy; slight haze of surrounding retina; retinal arteries diminished. Very numerous small dots of pigment at yellow spot, like gunpowder or coarse pepper, with little if any visible change of the choroid between them. In the R. eye there is also well-marked choroiditis, with similar black dots and pallor of the choroid between them, at the outer part of the periphery, but none was visible in the periphery of the L. Her hair is nearly black, but the choroids not very dark.

At this date she could only read large print, or manage to puzzle out a newspaper.

Feb. 6th, 1877.—Sight much better.

$$V. \begin{cases} \text{R. eye, 4 Jaeger slowly.} \\ \text{L. eye, 1 Jaeger with tolerable ease.} \end{cases}$$

She says that sight still varies at different times; *e.g.*, nine days ago "those nasty blacks came again" in the R. eye, and she was "nearly blind" with the eye for three hours.

Treatment.—Gray powder, in two-grain doses, twice or thrice daily for three months (till March 13th, when she ceased attending). She was never salivated, and health improved very markedly while under care.

CASE 12.—*Syphilitic Neuro-Retinitis and Inflammation of Vitreous. Evidence of Choroiditis encircling the disc. Notes of progress wanting. Disease symmetrical.*

Joseph W., a sailor, aged 46, but looking 60, had syphilis early in the autumn of 1876, with rash, sore throat, and sores on the tongue. He came to the hospital in *July*, 1877, on account of a "mirage" before his sight of three or four weeks' duration, and worse in the R. eye. He had been under treatment for his syphilis since the previous November; taking, as he believed, mercury for the first three months of the time, and iodide during the whole period.

On admission—

V. { R. eye, 4 or 6 Jaeger badly, and $\frac{20}{40}$ with many mistakes.
L. eye, 2 Jaeger p. 14″ or 16″ and $\frac{20}{20}$ perfectly.

Pupils act scarcely at all to light and shade, and do not act at all with accommodation; movements of eyes normal except some twitching and rotation in extreme lateral positions, especially to the L.

R. eye.—Considerable haziness of the vitreous, especially at the central and lower parts. Disc hazy and pale, and some of the vessels on its surface partly obscured by lymph; it is surrounded by a halo of ill-margined pallor, probably due to choroidal disease. In many parts of the fundus the retina looks faintly "dappled" by whitish haze. No proof of choroiditis unless around the disc.

L. eye.—Probably some haze of the vitreous, but no separate opacities visible. Disc much redder than the R. and slightly hazy; a crescent on its *y.s.* side. Refraction of both eyes hypermetropic.

He still has sores on the tongue and a few spots on the skin.

CASE 13.—*Symmetrical Inflammation of Vitreous, with diffuse haziness and extreme defect of sight whilst taking mercury for Symmetrical Syphilitic Iritis. Keratitis punctata with pigmented spots.*

Ellen U., 68, an Irishwoman, came under care in *May*, 1877, for iritis of the R. with pain and congestion. There was a copious scaly rash on the fronts of the arms, and sores on the palate and tongue. She had already been under treatment.

The iritis in the R. was mild. Three months after admission

(*September*), and while taking mercury, the other eye inflamed more severely than the right, lymph and dense synechiæ being formed in the pupil. In *February*, 1878, her sight was found to be very defective; with the L. barely words of 8 or 10 Jaeger, and worse at night; with the R. scarcely perception of light. T. normal in each. Well-marked punctate deposits were present on the posterior surface of each cornea; in the L. they were very darkly pigmented, almost black, and abruptly defined without any trace of intervening haze; in the R. they were, for the most part, like little drops of cold tallow, and there was slight haze of the cornea between them. I could not make out any opacities in the vitreous of either eye, and the fundus was well lighted up; yet in the R. I could not see any details whatever, either with the erect or inverted image, while in the L. the disc and retinal vessels were only just visible; there must, therefore, have been diffuse "dust-like" haze of the vitreous in both. She said that the sight of the L. eye sometimes became better for a few days.

Treatment.—Mercury for the first four months continuously, but in varying doses; she was freely salivated during part of the time. She again took it in smaller doses for two months at the beginning of this year. Iodide in five-grain doses for nine months.

CASE 14.—*Severe Syphilitic Iritis, with deep-seated inflammation and glaucomatous symptoms. One eye lost.*

Thomas B., a tall, flabby-tissued, badly fed, and intemperate tailor, æt. 55, was under care for severe double iritis, with increased tension and great pain. The attack began three weeks before he came to the hospital. He attended irregularly from *September*, 1877, to *January*, 1878, and declined iridectomy. The R. eye recovered well, but the L. was quite lost, and when last seen its tension much increased, though the anterior chamber was of good depth, and the iris nowhere bulged forwards. In addition to the iritic adhesions there were unusually well-marked remnants of the pupillary membrane in each eye, more in the R. than the L.

He had had syphilis, with a rash, which was partly ulcerative, apparently almost two years before the iritis; but he was uncertain in regard to dates.

II.—Cases of Detachment of the Retina, and Disease of the Vitreous.

In the following cases, none of the commonest causes of retinal separation, viz., myopia, blows on the eye, and intra-ocular tumours, could be made to explain the changes found. Although the cases present many differences among themselves, and certainly do not all belong to the same category, I have thought it worth while to put them together provisionally, as illustrations of a class of diseases which is of some importance and will certainly repay further study. In connexion with some of these cases I would call attention to an important lecture by Mr. Hutchinson "On the Influence of the Sexual System on Diseases of the Eye," in the "Ophthalmic Hospital Reports," Vol. IX., Part I., in which it is held that disorganizing changes in the vitreous are amongst the occasional consequences of sexual exhaustion.

Case 1.—*Detachment of Lower Part of Retina, slight but widely spread. Abundant disease of Vitreous. Eye hypermetropic. No cause found.*

John A., 42, a carpenter, came in *March*, 1876, complaining that for two months he had had a moving speck, the size of a pin's head, before his R. eye, that the sight was very dull, and that window-glass with this eye looked green. There had been no other symptom.

On admission.—R. eye barely sees letters of 20 Jaeger. The pupil acts well independently of its fellow; tension normal. A widely-spread but shallow detachment of the retina at the lower and inner part of the fundus. The separation is so shallow that though the retinal vessels look small, dark, and tortuous at the affected part, the red reflex of the choroid is nowhere obscured. Refraction at the optic disc hypermetropic at least $\frac{1}{20}$. The vitreous full of films. No choroidal disease.

L. eye reads 1 Jaeger slowly, and $\frac{20}{20}$; no manifest hypermetropia, but by the ophthalmoscope H. at least $\frac{1}{20}$ proved.

He attended until November. The sight of the diseased eye varied a little, sometimes being worse, and usually being at its best the first thing in the morning; but no material change took place. At one time, in July, the eye was painful for a few days, but there was no external change, nor any material alteration in the ophthalmoscopic appearances. He took three-grain doses of iodide for some time, and had at first distinct coryza from its use.

He had been married twenty years, but his wife had died about two months before his eye symptoms began. I could get no history or evidence of syphilis, or other constitutional disease, either remote or recent.

CASE 2.—*Progressive Failure of Sight from Disease of the Vitreous, and probably Detachment of Retina. Both eyes affected. No cause proved. Disease in progress for several years.*

Thomas B., 51, a hawker, tall, strong, in good health, came to the South London Ophthalmic Hospital in *October*, 1876, so nearly blind of both eyes that he could not count outstretched fingers at a foot off; the L. eye was, he thought, rather the worse. The pupils were of about ordinary size, and acted fairly to light; they dilated imperfectly to atropine, but remained circular and showed no signs of former iritis; the L. did not dilate so well as the R. The lens was perfectly clear in both eyes. The ophthalmoscope gave a dull gray reflex from every part of the fundus in both; only very slight indications of the red choroidal reflex here and there; no retinal vessels were visible, and the proof of detachment was therefore incomplete, since the appearances were equally compatible with dense and universal haziness of the vitreous; in the R. a large white slowly moving body could be seen in the vitreous.

The history was that his sight had been failing for nine years, and had been at its present degree for about a year. There had been no inflammatory symptoms. He had not formerly been short-sighted, nor was there any history of injuries. There was no history or evidence of syphilis, although the history of his children was suspicious. He had married his second wife thirteen years ago, *i.e.*, about four years before his sight began to fail, but he did not consider that he had been excessively indulgent. I saw him only twice.

CASE 3.—*Detachment of Retina, wide and shallow, with pallor of disc and diminution of retinal vessels. Eye hypermetropic. History of sudden onset. Choroidal embolism. Influence of sexual system.*

Charles D., 42, a painter, was admitted in *November*, 1875, for defect of the R. eye. He stated that the sight had failed rapidly, in two hours, one morning a month previously, that there had been no pain or inflammation, and no injury. *On admission* there were no external signs of disease; the pupil was active, and tension normal; V. only letters of 16 Jaeger held to the outer side, the upper and nasal parts of the visual field being completely absent. There was widely-spread though slight separation of the retina in the lower, outer, and upper parts of the fundus; at the nasal side it was *in situ*. The disc was pale, and all the retinal vessels uniformly and considerably diminished; all the arteries pulsated regularly on slight pressure. Refraction at disc hypermetropic.

The L. eye had been blind ever since a severe blow in childhood. It was rather shrunken, the tension diminished, the cornea clear, and the anterior chamber deep. It had never at any time given him the least trouble.

For nearly three months he took small doses of iodide of potassium and gray powder, the gums being barely touched by the mercury. The detachment became more extensive, though not materially deeper, and his sight worse; about the inner one-third of the retina remained *in situ*. At the latest examination the disc is noted as "considerably atrophied, but not cupped," and the retinal vessels diminished as on admission, the arteries still pulsating easily. He complained of slight occasional aching in the eye.

In respect to cause, it is to be noted that the changes were quite unlike those occurring in sympathetic inflammation, and that there seemed therefore no reason for supposing that the blind and shrunken L. eye had had any share in their causation neither was there anything pointing to a diathetic cause. There was, in particular, no reason to think that he had had syphilis, nor that if he had had the disease it would have caused, at any stage, such changes as those described. He had been a widower for a year; I could not shake his assertion that he had never since his wife's death had intercourse; and it

seems worth inquiring whether his case is one in which the other causes of sexual exhaustion which often come into play under these conditions may have indirectly caused his eye disease.

CASE 4.—*Detachment of Retina in a slightly Hypermetropic boy. No cause proved. Possible influence of a blow on the face.*

Sidney C., 13, came to the hospital in *December*, 1876, for pain and irritability after use of the eyes, for which no cause was found excepting a very low degree of hypermetropia.

The R. eye was very defective, and on examination the retina was found detached in folds at the lower and outer part. There was probably also diffuse haziness of the vitreous. The eye diverged. Two years previously he had received a blow on the face by a snowball containing a small chip of wood, and it was thought that the eye was struck. The squint, however, was said to have been present before, and this, if true, makes it improbable that the blow was the cause of the detachment.

L. eye, V. = $\frac{15}{20}$; after complete atropization $\frac{15}{50}$, raised at once to $\frac{15}{20}$ by + 48 or + 36. Ordered + 40 spectacles.

CASE 5.—*Disease of Vitreous in One Eye of a Man. History pointing to repeated variations in the amount of opacity. Patient liable to epistaxis.*

Charles A., 34, a carpenter, applied in February, 1875, for a defect of his L. eye. "Something dancing down over the sight." He had first noticed it suddenly one morning a year before; since then it had sometimes been absent for months together, and then reappeared.

On admission, February 24th, with the L. eye he could barely make out 1 Jaeger and read $\frac{20}{50}$. In the vitreous there were large thick floating webs, which much obscured all except the peripheral parts of the fundus; no other disease could be made out.

On March 20th he stated that the eye had been nearly well till the night before, when "it came over cloudy again." He could now only now and then see a word of 12 Jaeger as the cloud floated partly off. The vitreous was full of large webs and cords, and those of them which could be seen by focal light were white, not red; thus there was no *proof* that the condition was due to hemorrhage.

On April 17th the note is, "nearly well."

On May 1st examination showed that the vitreous had much cleared, though it still contained a thin web of opacity, and at the lower part a dense opaque spot.

There was no history of injury of any kind. He had at different times been subject to attacks of repeated epistaxis, but not to any great extent; he remembered two such, separated by an interval of several years, the last being the summer before I saw him. He had formerly masturbated largely. When I saw him he was suffering from a second attack of gonorrhœa. There was no evidence of syphilis, nor were the eye changes suggestive of that cause.

CASE 6.—*Peculiar Disease of the Vitreous in One Eye of a Boy, possibly due to a cysticercus.*

James R., 14, an errand boy, believed that his R. eye had begun to fail about two years before admission, and had been nearly blind for about a year. The L. was also somewhat defective, but not more so than was accounted for by a high degree of hypermetropia, with some astigmatism.

On admission, Oct. 30th, 1876.—R. eye sees only 20 Jaeger, and only when looking down. Pupil active; a moving grayish reflex seen by daylight. With the ophthalmoscope extreme disease of the vitreous was found, in the form of (1) a streaky membranous-looking opacity just behind the lens, not moving; (2) behind this a large, very delicate, and freely floating gauze-like opacity; (3) deep down at the lower part of the vitreous a small oval white body, easily seen by focal light, and freely moveable. No details of the fundus could be seen.

The size, shape, and general appearance of the opacity numbered (3) suggested the presence of a cysticercus. I saw him only once, and the case must therefore remain incomplete.

CASE 7:—*Disease of Vitreous in One Eye of a Lad: Slow progress. No cause assigned.*

Walter S., 18, a labourer, had noticed a little "spot rising and falling before" the L. eye for twelve months before he came to the hospital; it had gradually increased; there had been neither pain nor inflammation. He thought that for the last three weeks a similar spot had been beginning in the R. eye.

On admission, November, 1875.—L. eye can read 1 Jaeger slowly and held rather near; very large, freely floating cobweb-like opacities in the vitreous. No iritis, and no other morbid appearances. Refraction hypermetropic.

Nothing could be found wrong with the R. eye.

Five months later the state of things had not altered much, excepting that a string of opacity was now seen passing from the posterior surface of the lens backwards through the vitreous towards, though not so far as, the disc.

After careful inquiry I could gather nothing as to cause; I regret that I have no note as to gout.

CASE 8.—*Detachment of Lower Half of Retina, slight but widely spread. Disease of the Vitreous. History pointing to the sudden onset of the detachment. Severe blow on the eye many years before. Eye hypermetropic.*

Wm. P., a labourer, 44, was sitting reading on Sunday, *March* 18, 1877, when a "darkness" came over his sight; thinking it was the cloudiness of the sky, he drew the curtain aside, and then found on trial that the L. eye had become dim. He had until then always been accustomed to "take sights" in his work with the L. eye.

On admission.—L. eye sees letters of 20 Jaeger in the lower part of the field only; almost the whole upper half of the visual field absent, the line of demarcation being very abrupt. Pupil rather larger than the R., but acts fairly well independently of its fellow. The lower half of the retina detached from about the level of the disc and yellow spot downwards, the separation being shallow in all parts and not obscuring the choroidal reflex; some small opacities in the vitreous. Refraction of disc slightly hypermetropic. No choroidal disease seen.

For about *twelve months* he had been subject to a "roaring" or "humming" in the top of the head, noticed chiefly when quiet, not when at work, nor when lying down; he thought himself getting a little deaf. No pain in the head. Excepting that in a prize fight, some nine years ago, he had received a hard knock on the L. eye, I could find no clue to the cause of the retinal detachment.

CASE 9.—*Extensive and Deep Detachment of Retina, with disease of Vitreous. No cause found. ? Tumour. Eye hypermetropic.*

Elijah B., 31, a portly man, getting corpulent, a small shopkeeper, had known for four years that his L. eye was defective. He came to the South London Hospital in *August*, 1877, because he thought that for some months past the eye had been getting worse. There had been no symptoms whatever excepting failure of sight. When a boy he believed that some lime had gone into the eye, but it had left no outward traces; there was no other history of injury.

On admission.—L. eye barely sees letters of 20 Jaeger, held to the extreme temporal side; pupil of same size as the other, acts well with its fellow, but does not act alone; tension normal. Numerous floating webs in the vitreous. An extensive, abrupt and deep detachment of the retina, which was not seen to float about. Optic disc seen dimly, and its refraction hypermetropic. R. eye perfect; reads 1 Jaeger and $\frac{20}{20}$.

He was cautioned as to the possibility of a tumour being present. I have not seen him again.

CASE 10.—*Large and Deep Detachment of Retina in an Old Woman. History pointing to rapid increase of detachment. No other symptoms. Eye hypermetropic. Globe excised for possible tumour. Nothing found to account for the disease.*

Maria W., 72, had noticed something "like a little black mark in the corner" of her L. field of vision for a year; ten days before admission it quickly increased and covered half the sight.

She was confident that her eyes had never been injured, and could remember nothing worse than a slight attack of inflammation in them twenty years before. She had all her life been "long-sighted."

February 9th, 1878.—L. eye can see large objects, but only in the temporal side of the field; pupil active; tension normal; no external signs of disease. A large detachment of the retina in the lower half of the fundus, beginning gradually close to the optic disc and increasing rapidly in depth from above downwards; some parts of it float. Refraction of optic disc hypermetropic, but the exact degree not measured.

R. eye.—Hypermetropia at least $\frac{1}{12}$; V. $\frac{20}{40}$; with her glasses (+ $\frac{1}{7}$) reads 4 Jaegar.

Feeling sure that the L. eye was lost for all practical purposes, not relying fully on her account, which pointed to a rapid recent increase of the detachment, looking at the absence of the two commonest causes of simple detachment, viz., myopia and injury, I thought excision of the eye the safest course, since a tumour growing from the choroid seemed to furnish the next most probable explanation of the case.

On opening the globe after removal, however, I found nothing but serous fluid between the choroid and the separated portion of the retina; nor was there anything in the naked eye appearance of the structures to throw light on the cause of the disease.

She was a tall, largely built, sallow-skinned woman, with dark hair, and in fair health and vigour for her age.

III.—Cases of Abscess in the Outlying Lobules of the Lachrymal Gland, the "Inferior Lachrymal Gland."

Abscess in the main body of the lachrymal gland is decidedly rare; but cases are not very infrequent in which a small and trivial abscess forms apparently in one of the separate lobules which lie in advance of the greater part of the gland; the lobules described collectively by some anatomists as the "inferior lachrymal gland."

In the cases which I have seen there has been a little abscess, always acute, in the substance of the upper lid, close to the outer canthus; it has generally pointed through the conjunctiva, has been accompanied by marked protrusion of the oculo-papebral fold, and often by some serous chemosis of the corresponding part of the eyeball. I have seen a moderate number of such cases, and my reason for referring the seat of disease to one or more of the lachrymal lobules is that I do not remember to have seen more than one case in which a similar abscess occurred in any other part of the lids.

Case 1.—Minnie G., 2; *June*, 1877.—A small abscess near the outer end of the L. upper lid. It had burst through the conjunctiva just above the edge of the tarsus.

CASE 2.—Sarah L., 7; *June*, 1877.—A small abscess at the outer end of the R. upper lid, corresponding to the position of the lobules forming the "inferior lachrymal gland." It had already broken. She had also had two styes at a distance from this abscess.

CASE 3.—George B., 18 months; *April*, 30, 1877.—Brawny dusky, fluctuating swelling of L. upper lid, chiefly at outer end, well defined, and corresponding to the position of the inferior part of the lachrymal gland. The abscess projects on the conjunctival surface at the part corresponding to the lachrymal ducts; there is serous chemosis. An incision from the conjunctival surface evacuated the abscess; the pus was for the most part in front of the rim of the orbit; the abscess cavity examined with a probe seemed to be divided into several little pockets.

CASE 4.—Alfred W., 7; *October*, 1876.—A small abscess over the outer end of the R. eyebrow, with an enlargement of the præ-auricular gland and of the glands behind the jaw.

CASE 5.—Joseph H., 6; *October*, 1877.—A small brawny swelling nearly corresponding to the outer canthus, and threatening to point through the skin.

CASE 6.—Robert B., 44; *March*, 1877.—An abscess at the outer end of the R. upper lid; the skin freely moveable over it; much serous chemosis at the corresponding part of the globe. Next day the abscess had broken through the conjunctiva, and its orifice was seen to correspond to the position of the lachrymal ducts.