Erroneous Observations connected with the Presence of Fatty Matter in Urine. Numerous other instances, in which fat has been said to have been passed in considerable quantity, are on record; but there can be little doubt that, in many of these cases, the chemical characters of the substance supposed to be fatty were not carefully ascertained. There is reason to believe that the iridescent pellicle, which really consists principally of fungi, vibriones, and crystals of triple phosphate, from its general resemblance to a thin film of oily matter, was mistaken for fat. Many practitioners have been deceived in consequence of the admixture of milk with urine. This is not an uncommon practice, and we should be very careful not to be misled by impositions of this kind. It is hardly credible what trouble some patients will take to deceive us; and very often deception is practised and carried on for a long time without detection. From not being able to discover any reasonable motive, we are sometimes too ready to conclude that our suspicions are unfounded; and thus we may be led to believe statements which are really false, and report cases apparently of a very exceptional character, which only prove that great ingenuity has been employed for the mere purpose of imposing upon us.*

In Lecture IX, we shall examine those urinary deposits which I include under the head of light and flocculent urinary deposits. This class includes the different forms of epithelium from the urinary passages, spermatozoa, casts of the uriferous tube, and many other bodies which are of great clinical importance.

Lecture

ON

SYMPATHETIC INFLAMMATION OF THE EYEBALL, AND ITS TREATMENT BY OPERATION.

By HAYNES WALTON, Esq., F.R.C.S., Surgeon to St. Mary's, and to the Central London Ophthalmic Hospitals.

GENTLEMEN,—A very grave result of wounds and injuries to the eye, is sympathetic implication, which has of late received much attention.

The subject was first practically recognised by Mr. Barton of Manchester, whose practice was brought before the profession by Mr. Crompton, in the *London Medical Gazette*, vol. xxi, p. 175. The sympathy must be produced by injury from extraneous bodies in the eye. In seven, a portion of copper had settled in the anterior chamber. Inflammation and disorganisation of the eyeballs were soon followed by failure of the functions of the other eyes, together with structural changes. Mr. Barton excised the cornea, and applied a poultice, in the hope that the copper-cap would escape; this did happen, and besides, produced great relief; but it had a greater and more valuable effect, it saved the destruction of the other eyes, although some of them seemed past all hope.

The evidence of this sympathetic action should be well understood, or disease may be attributed to sympathy, which is nothing but the same local manifestation of constitutional taint, that appeared in the other eye, and secondary only in order of time. I have known many mistakes to be made in this way to the great disadvantage of the patients. In traumatic cases the diagnosis is mostly simple. The injured eye manifests symptoms of irritation or disturbance, and there is the sign of acute or of chronic inflammation. This development of morbid action may be slight or very apparent, but is always to be discovered; and pain or soreness under touch is always present.

The sympathetic attack usually shows itself early, within a few weeks; but it may appear at any time, so long as the irritation produced by traumatic disease lingers. Mr. Wall of Paddington called me to a patient whose eye was fast failing, without any very apparent cause, the symptoms being impaired vision and spectra. The other eye had been wounded two years previously with a packing-needle, the cornea torn across, and sight destroyed. Paroxysms of pain and tender-

ness in it under touch convinced me that it was producing sympathetic disease. I was correct, and my treatment saved its fellow; it completely restored its functions.

There may be variation in the subjective and objective symptoms of the sympathetic attack. Then there may be no pain, or it may exist with great severity. Intolerance to light is the first common result. Some form or other of impaired sight is the most bad omen. Loss of local adjustment, incapability of sustaining vision on minute objects, loss of definitions generally called feeble sight, abundance of muscæ, spectra, flashes, stars, coruscations, inflammatory action, loss of pupillary movements, change of iris-colour, softening of the eyeball and shrinking, are the later manifestations. It would seem, then, that the morbid action travels from the retina forwards; and ultimately the whole of the ocular tissues become involved, atrophy being the termination.

A small lacerated wound of the eye, especially of the anterior part, and which, to all appearance, has involved only the cornea, the iris, and the crystalline lens, may, equally with very great lesion, induce sympathetic disturbance. It is difficult to understand how the smallest quantity of pus, a drop or two just behind the cornea, or a slight change of texture of some of the tissues of the eye, can exert so baneful an effect.

Blows without wounds or breach of surface, burns, and chemical injuries, are capable of producing that kind of action that may excite sympathetic ophthalmitis; and this shows that no importance is to be attributed either to the peculiarity of any kind of wound, or to the tissue which is implicated; and all we can say is, that a variety of existing causes produce morbid changes to which the sympathetic disease is due. I illustrate this by a case published in a paper in the *Medical Times* for October 28th, 1854, by my colleague Mr. R. Taylor, who contributed another communication on the same subject on the 4th of November. A contribution of my own will be found under the date of February 18th of the same year.

A man received a blow on the right eye from a piece of iron, but there was no wound of any kind. The sight was not injured at the moment, but began to fail soon after the accident, and was extinct in a year. About six years after the accident, the eye became inflamed and excessively painful. The pain continued for ten months, totally incapacitating him from work; and so severe, that for several months he scarcely had an hour of uninterrupted sleep. The other eye was excessively intolerant of light. He could not read large print, nor could he fix it on any object for more than a second or two. He was operated on, with complete relief from pain; and the sight of the other eye was restored perfectly in about two months. Mr. Taylor saw him five years after the operation, and the sight continued perfect. The remains of the right eye formed an excellent stump for an artificial eye, but he did not care to have one.

Inflammatory affections producing disorganisation of the eye may develop sympathetic disease. I have seen more examples of this induced from staphyloma of the sclerotics, the result of purulent ophthalmia in infancy, than any other cause. I subjoin a case that I noted down in 1857.

An ophthalmic hospital patient, aged 20, had purulent ophthalmia in infancy, and lost one eye. Staphyloma formed, and the growth had been gradually increasing from childhood. About puberty, it was painful, and for the first time the sight of the second eye got a little dim. Soon after this, a blow on the staphyloma produced a sharp attack of inflammation in it, attended with much pain. The dimness of the other eye increased, and redness appeared. From this period there had been a gradual deterioration of vision, with occasional paroxysms of pain and inflammation. When I saw him, there was a very large staphyloma of the sclerotics, and no trace of the cornea, but in place of it a small cicatrix, round which the staphyloma was very vascular, the vessels being disposed in remarkably regular radii. The eyelids could not close over the tumour. There was a purulent discharge. The condition of the failing eye was this. The cornea was rather reduced. The sclerotics was discoloured, and full of varicose vessels; the iris dull and shrunken; and the pupil adherent in several places. There was intolerance to light, and vision was very imperfect, although he could read.

There are not recorded many careful examinations of the morbid materials found in eyes that have set up sympathetic ophthalmitis. I therefore introduce this, which came under my notice in the hospital practice of my colleague Mr. R. Taylor. The details are in the *Transactions of the Pathological Society of London*, vol. vi, p. 302.

The patient was a woman, 70 years of age, whose eye was

* I am much interested in the question of the removal of fatty matter by the kidneys; and I shall be very much obliged to any one who will send me specimens of urine containing fatty matters in any unusual form, or reports of well authenticated cases.

destroyed by intense inflammation of the anterior chamber, which was completely filled with a solid cake of lymph. The lens was hazy, and its fibres presented the usual appearance seen in cataract at a not very advanced stage. Immediately under the capsule, both anterior and posterior, and imbedded in the superficial lens-substance, there was found a layer of peculiar bodies, varying much in form and shape. The predominant form was spheroidal, but many were of the most eccentric shapes. Under the polariser, several of the larger presented a distinct cross; in the smaller bodies, the cross was faintly marked, or absent. Tested with tincture of iodine, they assumed a deep blue colour, gradually increasing in intensity till they became opaque. In making the examination, every precaution was taken to prevent fallacy.

Crataecous degeneration of the crystalline lens, and of its capsule, is no uncommon source of the sympathy; and in the numbers of the *Medical Times* above quoted are many examples from my practice. Osseous degeneration of these parts always produces the same effects. With such complete disorganisation of one portion of the eye, the rest of the interior is always spoiled, and vision lost. The altered lens and its covering are generally adherent to the iris. I have traced disturbance to have commenced from its becoming loose. At the end of the chapter, I shall further notice these and allied changes of other tissues, any of which may, I suspect, set up irritation.

No general treatment, no local application, no dietary system, is of avail in checking unequivocal sympathetic ophthalmitis. Nothing of the kind can be depended on; and, while I thus speak from my own observation, I endorse the statement of all trustworthy observers. The affection can be stopped, or subdued, only by surgical treatment. A portion of the eyeball must be removed, whereby the products which have been generated and have set up the irritation, or the crataecous or ossified tissue which has acted as a foreign body, may be got rid of; or extirpation resorted to. When practised early, it works wonders. If adopted before the sympathetic action has induced palpable structural changes, it will be all effectual. At later stages, it may arrest progress, and stay the destruction. Even when the pupil has become adherent to the capsule of the lens, and the iris dull, I have seen the check. I have taken notes of so many of these cases, that I have ceased to record them.

I proved many years ago (and I think that I revived Mr. Barton's practice, which, so far as I can learn, had never been generally carried out in London by any one) that removing a portion of the eyeball will generally suffice, as it is frequently in the anterior of the eye that the centre of the morbid action is seated. The intensity of it is more common near the point of injury, and this is mostly in the front of the organ. I have over and over found the vitreous humour healthy; this portion of the eye, therefore, not being spoiled. With the reduction of the eyeball only, the deformity is very much less, and the case is better fitted for an artificial eye; and, in the early years of life, the destined growth of the orbit is less interfered with. When the entire eyeball is disorganised, the posterior as well as the anterior, especially when there is staphyloma scleroticæ, or general enlargement, extirpation is the course to be adopted.

I perform the lesser operation, that of reducing the eye—"abscission"—in this way. The eyelids being retracted, I transfix the cornea, or the staphyloma cornea, as it may be, with a cataract-needle, or the curette; and cut it off close to the scleroticæ with a small scalpel, gently and rapidly. When I think it requisite, I make the amputation a little behind the cornea; and then the iris, or whatever remains of it, is excised. Should the lens be present, whether opaque or not, I remove it. If I find the vitreous humour healthy, I try to prevent its escape by gentle manipulation and rapid closure of the eyelids; and sometimes none of it is lost. What should follow is very important. There is no more necessary step in the whole proceeding, and without it there may be copious bleeding and suppuration in the stump. I place a roll of cotton wool, or what is next best, a pledget of lint, quickly on the closed eyelid; maintain it with a bandage, and keep it there for two or three days; and afterwards apply straps of plaster. Healing is effected by the cicatrising of the cut surface, and its rapidity depends on the healthiness of the vitreous humour. It is not unusual to find the parts sealed up in a week.

The more the eye is diseased, the quicker and the more copious is the bleeding. It is this tendency to hæmorrhage that has induced some surgeons to speak disparagingly of the procedure; but if it be adapted to the proper cases, I am sure

that patients will be the gainers, greater benefits will be conferred—the object and end of all surgery. When the bleeding is from the vessels in front of the eye that have been cut through in the operation, it can easily be restrained, and is never of any consequence. When it is internal, it may for the most part be stopped by the compress. I have long been convinced that the source of this internal or intraocular hæmorrhage is not the central artery of the retina, as generally supposed, but the choroid; and my opinion has been publicly stated for years. More extended observation has strengthened my views. There is always a previous escape of the unhealthy vitreous humour, and the removal of pressure or support from the diseased choroidal vessels causes rupture of them. I have seen the whole of the vitreous humour thrust out by clots, the retina hanging in shreds in the wound.

Perhaps in some cases, by the removal of the front of the eye, so much support is taken from the diseased choroid, that the bleeding forces out the vitreous humour. Much internal hæmorrhage ends in total collapse of the eye, and necessarily the process of recovery is retarded.

"Extirpation" of the eyeball within the ocular sheath is what would be called a more brilliant proceeding than "abscission"; and there can be no doubt that, although the operation, so far as the practical surgery is concerned, is more prolonged and severe, the recovery may be more rapid, and the general effect perhaps less. Yet I am quite sure that, if the patient's ultimate welfare be considered, its adoption should be the rare exception. Even a button of collapsed tissues is far better than not any, and a slightly reduced eyeball is vastly superior to an empty orbit; and I think it better that these should be secured, if it be even at the expense of longer time. But will the "abscission" confer advantages equally lasting with "extirpation"? is a question likely to arise in the mind of the practical man. Answering from my own experience, I say, Yes. In no case in which I have selected it as the proper operation have I been disappointed. Were I to write pages, I could not express more. I will just mention here, in connexion with hæmorrhage, that I have seen smart bleeding from the ophthalmic artery after "extirpation", requiring firm compress to stop it.

"Sympathetic ophthalmitis" might be spread out to a great length, and extensive details given; but I think that I have said enough to guide the student, and to develop inquiry. There are yet many points about which I am seeking information, among which I am searching after the conditions that the ophthalmoscope may reveal to us in the early stages of it.

Original Communications.

ON THE ACTION OF MERCURY UPON THE LIVER.

By THOMAS INMAN, M.D.Lond., Physician to the Liverpool Royal Infirmary.

CIRCUMSTANCES have induced me lately to investigate the action of mercury upon the liver; and as the inquiry has led me to important results, I think it right to communicate them to others.

So far as I can learn, it is an almost universal belief, both amongst doctors and patients, that mercury has a special influence in increasing the secretion of bile; and when this idea is put into definite words, the formulas run thus: all mercurials act on the liver; blue pill stimulates it; a small dose of calomel irritates it; a large dose "emulges" it; while grey powder corrects its secretion. Acting on this belief, mercury is used in every form of hepatic disease. One patient with too much bile takes calomel to carry it off; another with too little takes blue pill that he may carry off the proper amount. Too big a liver is treated with mercury to reduce its size; and too small an one (as in cirrhosis) is treated with the same drug, that its bulk may be increased; and if the bile goes the wrong way, and reaches the skin or the stomach instead of the bowels, mercury is given to bring it back. To challenge such belief, is certain to draw down upon the inquirer the title of visionary theorist; yet the name will be undeserved, for those only are theorists who ignore opposing facts, and they are essentially the practical men who rigidly seek after truth, and refuse credence to insufficient evidence.

Let us, in the first place, examine the grounds for the