3. That the natural secretions of glands in syphilitic subjects, when those glands are not themselves specifically diseased, have no power of imparting constitutional syphilis.

After the reading of the above paper, Mr. PAGET, the President of the Surgical Section, at which Mr. Lee's paper was read at Oxford, stated that the paper appeared to him to afford a fair explanation of those cases in which secondary syphilitic symptoms have followed, and have appeared to be the consequences of soft chancres; such cases had occurred to most surgeons, and yet so rarely in comparison with those in which secondary symptoms followed hard sores, that they seemed insufficient to disprove the law according to which hard chancre, or diseases derived from it, are the necessary precedents of secondary symptoms, the sole sources of constitutional infection. A law of this kind, if there be one, can have no exceptions. What seem to be such must, if the law exists, be erroneously or incompletely observed facts. And here the incompleteness of the observations in some of the assumed exceptions may have been, as Mr. Lee suggested, that a patient had had a soft chancre at or about the same time as he had been infected from a hard sore, the virus of which had traversed sound textures, and had produced in them too little change to be observed. It must have occurred to every one, seeing many cases of syphilis, to meet with patients, having secondary or tertiary symptoms, who have nevertheless been unconscious of having ever suffered primary disease. Such cases are commonly explained away or disbelieved. They might have been instances of infection through textures which were not observably contaminated by the transmission of the infecting material through them. Such a transmission is sometimes observed with the poison of dissections; and, although one might doubt much of what some believe respecting the derivation of pus-cells from exuded white blood-cells, yet it was quite certain that pus-cells, and others like them, might pass through membranes having no perceptible apertures, and might leave no visible traces of their passage. The doctrine of essential difference between infecting and non-infecting, hard and soft, chancres, was in the same position as many others in pathology. We seem to have discovered a general law; the facts in support of it are many; those against it are very few. We are justified in suspecting that these are incompletely or erroneously observed, and are not what they seem to be.

OBSERVATIONS SUGGESTED BY THE STUDY OF CASES OF CATARACT EXTRACTION.*

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OWING to the recent and numerous improvements in the art of extracting for cataract, the selection of an operation in any given case becomes a matter of no slight difficulty and importance. A thorough knowledge of the nature of the case, a perfect appreciation of the difficulties to be individually encountered, and some study and experience of each of the methods in vogue, are necessary to enable us to afford our patients that maximum chance of a successful result which they have a right to expect at the hands of all professing a knowledge of ophthalmic science. The age and previous history of the patient; the condition of his health; his peculiar idiosyncracies, and amount of nervous susceptibility; the condition of the cataract, as to hardness, softness, and presence of, or freedom from, degenerative changes, and the existence of glaucomatous or amaurotic complications—all merit a degree of study and consideration, the importance of which cannot be over-estimated, when we reflect that not only (as Mr. Critchett has observed) does the successful performance of this operation constitute one of the greatest triumphs of operative surgery of which our profession can boast, but also that to restore a fellow creature to sight must ever rank among the highest and most gratifying of human achievements.

As I am aware that the time accorded to papers read at these meetings will not permit a full discussion of the subject, I shall briefly recount the different methods of extraction now in use, detailing in each instance such observations and suggestions as the careful study of a large number of cases has, I may say, forced upon me.

And, first, as to the old flap method. This operation, which is still almost exclusively preferred by some leading ophthalmic surgeons, is certainly, when perfectly successful, for beauty and faultlessness of re-

sult, without a rival. Unfortunately, as usually performed, the amount of risk involved in the operation confines it to carefully selected cases of fully developed cataract, occurring in patients with but slight constitutional contraindication, of great self-control, and in a condition of health which we seldom find in the aged, and frequently cachectic, individuals who are usually the victims of cataract in our large manufacturing towns. Beer's knife, or one or other of the modifications of his wedge-shaped keratome, are the instruments usually employed. Zehender's modification, which I show you, is the one I used to prefer; it is longer, narrower, and rounder on the edge than Beer's original knife, and consequently perforates the cornea more readily, is more easily managed, and completes the section with less difficulty than is usually encountered when the larger knife is employed. Either the upper or lower section may be adopted, according to the nature of the case; recovery takes place a few days sooner with the upper section, the occurrence of prolapse of the iris, inflammatory complications, and suppuration, being about as likely to occur in the one as in the other; and partial suppurations, or the irritation occasioned by remnants of cortical matter, usually terminates more favourably when the lower section is adopted, as these morbid products naturally gravitate downwards, and find a point of exit in the latter case denied to them in the former. It is also easier to operate by the lower section, and we are less dependent on the tractability of the patient, and on assistance from others. Whether the upper or the lower section be used, the object of this method is to make a large flap of one-half of the cornea. The knife is entered at the transverse diameter of the cornea, about a quarter of a line from its edge, and carried parallel to the iris to a point of counterpuncture similarly placed; it is then pushed on, and the flap completed by turning its edge forward, and drawing it from heel to point until the section is finished; the capsule is then incised, and, by alternating pressure, the lens is turned on its axis, and tilted against the pupil, which slowly dilates, and permits its passage into the anterior chamber and exit through the incision. As before observed, in a favourable subject, and when performed without misadventure, the results of this operation are superior to those obtained by any of the modified methods which have recently been adopted in place of it. Unfortunately, such serious accidents are apt to occur both during the operation and subsequently to its performance, that we are limited in our selection of cases. Thus, the aqueous humour may escape prematurely; the iris may fold over the edge of the knife, and be seriously bruised or wounded. The eye may be pushed inwards by the blade, and there may be difficulty in making the counterpuncture; or, in completing the section, and when the flap is made, with a contracted pupil and the patient irritable and frightened, considerable difficulty may be encountered in rendering tense and incising the capsule. The iris is apt to be scratched, and the opening in the capsule too limited; while the involuntary winking and twitching of the patient's lids is sometimes sufficient to rupture the hyaloid membrane, even before the lens is extruded; or the cataract may be forced out with a gush of vitreous humour the moment the section is completed, the weak flap being forced forwards and at once reflected by spasm of the lids. Even when the operation has been successfully finished, the large size of the flap, in delicate thin-skinned patients, is apt to permit its retraction, and consequent malposition and necrosis; while the same cause, in addition to its situation in non-vascular tissue (apart from inflammatory mischief or excessive traumatic injury), will often seriously interfere with its nutrition. The passage of the bulky lens through the more or less contracted pupil also occasions considerable bruising of the iris, which is a fertile source of subsequent mischief; while the comparative longer time required for the wound to close permits frequent gushes of accumulated aqueous humour, during which the iris is forced between the lips of the incision, is apt to be trapped, spoil the cosmetic result of the operation, and occasion much subsequent mischief. If, from the nature of the cataract, too, small portions of cortical matter be left behind, the risk attending manipulation of the globe and the extreme danger of rupture of the hyaloid membrane renders it almost impossible to remove them. In fact, when once the section is completed, if any accident occur, the operator is, in the majority of cases, powerless, and can only close the lids, hoping, often against conviction, that the wound may heal, and permit of remedy at some future period.

It is the desire to avoid this helpless feeling in a matter of so much importance, which has led to the various modifications of extraction which I shall presently describe. As they all, however, involve the sacrifice of a portion of the iris, I shall first endeavour to point out such safeguards against the accidents which occur in ordinary extraction as have suggested themselves to me; these, I believe, will, in many cases, enable us to secure that which we must always consider as the highest good fortune—namely, a central and moveable pupil.

The accidents which are apt to occur from the patient's want of steadiness, from spasm of the lids, and involuntary motions of the

* Read before the Midland Branch.

eyeball, which interfere so seriously with the operator's manipulations, may all be overcome by the administration of chloroform; and I should resort to this anæsthetic at any stage of an operation, although commenced without it, did the patient demonstrate by his conduct that he was not possessed of that amount of self-control necessary to its successful completion. The occurrence of vomiting, which is the great bugbear of chloroform, so far as its use in cases of cataract-operation is concerned, may be guarded against by the administration of an efficient purgative the day previous, by interdicting supper, and permitting only a very light breakfast, with a small cup of tea four hours before the operation; while any feeling of faintness may be removed by the administration of two tablespoonfuls of equal parts of brandy and sherry, in sips, twenty minutes before commencing the extraction. Should vomiting occur in spite of these precautions, we may prevent its ill effects by the instant application of a compress bandage, which should, at the commencement of the operation, be secured above the brow by a strip of plaster, so as to be ready for use without disturbing the patient. Vomiting ceases to be a very serious symptom when met in this way; and I am not aware of any other objection to the use of chloroform. The ease with which the lens may be extracted in the dead subject, has often been remarked; and the conditions so favourable to operation in the dead may be very faithfully imitated in the living if the anæsthesia be only pushed far enough. By commencing the incision at the summit of the cornea, and limiting it (until the capsule is incised) to an extent of three or four lines, all risk from premature escape of aqueous humour, and consequent wound or injury of the iris, is abolished; while there is no difficulty in opening the capsule (so long as we may manipulate the eyeball with impunity)—a proceeding very much facilitated by a widely dilated pupil, an advantage which we may secure up to this point by the previous free use of atropine. It is true that the pupil contracts when the aqueous humour escapes; but not so much as it otherwise would; and an interval of a few minutes usually suffices to open it up sufficiently for our purpose. This partial paralysis of the circular fibres of the iris also considerably diminishes the amount of bruising which that tissue undergoes when the lens is subsequently extruded. In this way, I consider that many of the difficulties and dangers of ordinary extraction may be avoided; and nothing is easier than to enlarge the flap to any required extent by the use of a blunt-pointed knife (such as I pass round), cutting to the left while the eye is fixed with the right hand, and cutting to the right while it is fixed with the left. The dangers which we should still have to encounter arise from arrest of the lens (from adhesions or immaturity), rupture of the hyaloid membrane, prolapse of the iris, and reflexion of the flap. If the lens should be arrested, and do not yield to such pressure as may be safely employed, it is better to pass a fine wire spoon (like the one I show you, made for me by Mr. Coxeter) as far as the outer margin of the pupil; then, by retracting the instrument, to draw open the pupil sufficiently to enable you to tilt over the lens on its axis, when by thrusting it onwards, the lens comes to lie in the concavity of the spoon, and may be safely extracted without passing it into the vitreous cavity.* Rupture of the hyaloid membrane is not very likely to occur if anæsthesia be perfect and the operator be very careful; but if it should, the risk from its occurrence is very much reduced, and prolapse of the iris, as well as reflexion of the flap rendered impossible by the employment of a suture. Suturing the flap, in cases of cataract-extraction, was practised by Dr. Bader of Guy's, seven years ago; and Mr. Williams of Boston has recently published a number of cases in which he has used it. Mr. Williams advises the application of the suture after the completion of the flap and the removal of the lens; but, I suspect, few surgeons will be induced to follow his example, as the extreme danger of so much manipulation as would suffice for the passage of a suture through the cornea when the operation is just happily over, one-half of that membrane converted into a flap, and every movement likely to rupture the hyaloid membrane, can scarcely be exaggerated. After several experiments, I am convinced that the only safe and convenient method of applying the suture is, to insert it before the capsule is opened; and, when the wound is only a line or two in extent, it may thus be passed with comparative ease and safety, the loop drawn through, and then, even if the hyaloid should be ruptured during the subsequent steps of the operation, the flap may be drawn up and tied securely. This accurate apposition of the flap prevents prolapse of the iris, limits the escape of vitreous humour, and affords so much security that cortical fragments may be removed by the sucker or scoop through the sides of the wound. By these means, I believe, we may save many cases of flap-extraction that would otherwise be lost, and also preserve that highest indication of success, the central and moveable pupil.

[To be concluded.]

ON THE USE OF ETHER AND ETHERISED COD-LIVER OIL IN THE TREATMENT OF PHTHISIS.*

By BALTHAZAR W. FOSTER, M.D., M.R.C.P. Lond.,

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I NOW come to the second part of my task; namely, the therapeutical application of the foregoing facts. Having found, as I considered, sufficient evidence of the special action of ether on the pancreas, I determined to test the value of the discovery by administering ether in all cases characterised by inability to digest fat. In the out-patient departments of our hospitals, many such cases occur, which are generally classed as dyspepsia. Many cases of neuralgia are also to be met with in which a most decided improvement follows the increased power of absorbing fatty food. To both classes of patients I gave ether sometimes in combination with cod-liver oil, sometimes alone before meals. The results were most satisfactory; the oil was digested more easily and the nutrition of the patients greatly improved. Of these cases I shall speak more fully on a future occasion. I next ordered ether in mixture to all my phthisical patients at the General Dispensary, selecting the Dispensary for my investigations, rather than the Queen's Hospital, because all the patients were out-patients, and consequently exposed to no new and favourable conditions while the experiment was being tried. The patients being also of a somewhat better class than those attending the hospital, were not, as is so often the case in our large towns, struggling to combat a mortal disease while suffering from the effects of disease's chief ally—improper and insufficient food. For some months I pursued the treatment, seeing a very large number of consumptive cases, to all of whom ether either alone or in conjunction with cod-liver oil was administered; and the good effects were so decided, that I determined to investigate the subject more methodically, and to keep a careful record of each case. The good results observed in this preliminary inquiry were a return of the power of taking oil and fatty food, which had been previously distasteful or had even excited sickness: increased appetite, improved general nutrition and increase of weight, diminution of cough and expectoration, and cessation of night sweats. The general impression produced in my mind was so favourable, that I began my more exact inquiries with much confidence. In my first cases, the ether had been given in water with hydrocyanic acid and bicarbonate of potash, twenty-minim doses of ether to each ounce of the mixture. The ether was afterwards added to cod-liver oil, the ether purus of the *Pharmacopœia* being used, and about ten minims (9.259 m.) added to every two drachms of oil at first, afterwards fifteen and twenty minims were occasionally given in the same quantity of oil.† In some cases the ether was administered in water alone, and taken a short time before the oil. The effects were similar in all cases; but for convenience sake, and on account of its power of masking the unpleasant properties of the oil, I now, generally, give ether mixed with cod-liver oil, in the proportions mentioned. In my second and systematic inquiry, I treated fifty cases taken as they presented themselves at the Dispensary, each patient being carefully examined on admission and at least once every fifteen days during treatment. A brief record was kept of the progress of each case; but, from former experience, I determined in this inquiry not to accept the statement of the patients themselves as evidence of improvement, but only to consider those patients better in whom the result of a physical exploration of the chest, in addition to decided increase in weight, confirmed the statements made. I therefore weighed every patient once a week. As it would be impossible to give a record of each case in a communication such as the present, I must confine myself to a brief statement of the results obtained in the fifty cases.

Sixteen were admitted in the first stage of the disease; nineteen in the second stage; and fifteen in the third stage.

Of the sixteen in the first stage (or stage of deposition), seven improved in general symptoms and in physical signs, gaining on an average over 7½ lbs. each; five remained stationary, all gaining weight slightly; and only four became worse.

Of the nineteen cases in the second stage, six improved in all respects, gaining, on an average, about 8 lbs. each, two cases gaining 14½ lbs. and 10 lbs. respectively; six remained stationary; and seven became worse.

Of the fifteen cases in the third stage, seven improved, gaining, on an average, about 5 lbs. each; five remained stationary; and three became worse.

* Concluded from page 544 of JOURNAL for November 21st, 1868.

† Mr. Peter Moller, of Oxford Street, has prepared for me some etherised cod-liver oil of excellent quality.

* Dr. Macnamara extracts the lens in this way, but with a metal spoon; which, I think, takes up too much space.