The shape of the prostate when it is the seat of malignant disease may be as characteristic as the consistence, but here again the same reservation must be made. The alteration may make its appearance early and be well marked, or there may be no alteration at all, even to the end. In the simple form of enlargement the gland, as it increases in size, pushes all the surrounding structures to one side. It swells out towards the rectum as an elastic rounded mass, very variable in shape, perhaps studded on the surface with bossy elevations, differing from the rest in consistence, but the contour remains well defined, even in the small fibroid variety. The upper border is convex from side to side, or, if concave from the extreme upward growth of the two lateral lobes, it is steeply cut and rounded off. At the sides the margins of the gland are clear and distinct. The trigone beyond is free, or if there is a growth spreading into it, it forms a defined invading mass, not a general infiltration. Malignant disease, on the other hand, infiltrates everything. Almost always the first part to become affected is the tissue surrounding the ejaculatory ducts, so that what feels to the finger like a horn of growth spreads upwards on either side towards the vesiculæ seminales, and at last spreads into them. Then the intervesicular space becomes thickened—this is much better appreciated when there is an instrument in the bladder at the same time. In a little while the change involves the tissues on either side and around the base of the prostate. The margins of the gland can no longer be defined. Hard cords can be felt running up towards the walls of the pelvis, and very soon the prostate becomes fixed and immovable. In the later stages of the disease, when it is advanced, the diagnosis is easy. In the earlier ones the difficulty may be very great; and, as it is imperative to make certain whether cancer is or is not present, it is always advisable to examine the patient under an anaesthetic in the lithotomy position, while firm pressure is being made over the pubes, so as to force the prostate down into the perineum.

The cystoscope is, unfortunately, not of much service in the early diagnosis, though it gives valuable information later. Much more can be learnt from the passage of a catheter, especially if a rectal examination is made at the same time, so as to form some conception of the condition of the intervesicular space.

It is always a matter for grave suspicion if the characteristic symptoms of prostatic enlargement have made their appearance suddenly—within a twelvemonth, for example—and if on passing a catheter in expectation of finding a large amount of residual urine, an ordinary olive-pointed instrument slips in easily and only a few drops come away. It means that all the ordinary symptoms of prostatic enlargement are present without any overgrowth of the median portion or of the lateral lobes to account for them. Perhaps this—the disproportion between the symptoms of which the patient complains and the physical signs that are found on examination—is the most significant point of all in the early diagnosis of cancer. From what the patient says about himself, a well-marked case of prostatic enlargement with residual urine is expected. What is found is a very slight degree of enlargement with nothing that will explain the frequency of micturition. If in such a case the patient complains of a constant pain in the perineum; or if there is a nodule of stony hardness in the prostate, or an extension of the growth towards one of the vesiculæ seminales; or if when a sound is introduced into the bladder and the beak is reversed, there is definite thickening of the intervesicular space, the diagnosis hardly admits of doubt.

With regard to the question of treatment there is very little to be said. Suprapubic enucleation should never be attempted for cancer. Except by accident the whole growth cannot be removed in this way. The operation is not one suited to cancer. Recurrence *in situ* is almost invariable, and from thence the growth spreads to the suprapubic wound, or involves the orifices of the ureters. The only method that holds out any hope of success is that devised by Young, in which the whole of the prostate with its capsule intact, the vesiculæ seminales, and the adjacent portion of the neck of the bladder are removed *en masse* through the perineum.

REFERENCE.

¹ Johns Hopkins Hospital Report, vol. xiv, p. 288.

An Address

ON

THE DIAGNOSIS AND TREATMENT OF SOME COMMON INFLAMMATORY AFFECTIONS OF THE EYE,

FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.

DELIVERED BEFORE THE STRATFORD DIVISION OF THE BRITISH MEDICAL ASSOCIATION,

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IN discussing the differential diagnosis and treatment of the common inflammatory affections of the eye from the standpoint of the general practitioner, I propose to limit myself to three affections—namely, conjunctivitis, iritis, including cyclitis, and acute glaucoma.

All three are accompanied by at least two of the cardinal symptoms of inflammation—redness and pain—with the addition of one other, the peculiar property of the region affected, photophobia. This last symptom is probably somewhat inaccurately named, as the nerve affected is the fifth nerve, which is not sensitive to light. The shrinking from light displayed is due more to exposure to the air and variations of temperature than to any direct action of the light rays.

Well marked cases of these three affections should present little difficulty in diagnosis, but in the early stages, before some of the more characteristic symptoms have had time to make their appearance, a most careful examination of the affected organ may be necessary before arriving at a satisfactory conclusion, and it is to be remembered that any mistake in treatment may be followed by the most disastrous consequences.

Recognition of Ciliary Injection.

In the differential diagnosis between these three affections the presence or absence of ciliary injection plays a most important part, I therefore propose briefly to recapitulate the points that distinguish ciliary from conjunctival injection.

In conjunctival injection there is present a superficial network of larger and smaller vessels, readily movable with the conjunctiva. The colour of the injection is a vivid scarlet or brick red, and cannot, owing to the freedom of the collateral circulation, be made to fade on pressure with the finger. This form of injection is most intense on the lids, and diminishes towards the cornea.

Ciliary injection, on the other hand, occurs as a rose-red or pale-violet zone surrounding the cornea, in which it is impossible to recognize clearly the individual vessels, and which is not movable with the conjunctiva. In the more severe cases of ciliary injection a coarse network of vessels at a greater distance from the cornea is also visible; these may be distinguished from conjunctival vessels by their hazy appearance, violet colour, and immobility relative to the conjunctiva. Owing to the numerous anastomoses between both sets of vessels, severe inflammatory affections of the uveal tract are always accompanied by a certain amount of conjunctival injection, but the essential point is to recognize the existence of the ciliary injection, as this always indicates inflammation of some structure deeper than the conjunctiva.

Symptoms and Treatment of the Ordinary Forms of Conjunctivitis.

The subjective symptoms will naturally depend on the severity of the case, but it may be stated that severe pain is only met with as the result of some complication, such as ulceration of the cornea. Complaint will be made of discharge from the eyes, with itching and burning sensations, generally becoming worse towards night. Vision is interfered with by the passage of flakes of discharge in front of the cornea. The discharge tends to glue the lids together during sleep.

On examination the surgeon finds that conjunctival injection is present, confined at first to the palpebral surface, and most marked in the lower cul-de sac.

For clinical purposes the various forms of conjunctivitis may be arranged in four main groups, in accordance with the presence or absence of the following symptoms:

1. The nature of the discharge, muco-pus or pus.
2. The presence of a membrane.
3. Chronic irritation with little or no discharge.
4. A miscellaneous group, in the course of which ulceration and vascularization of the cornea are prone to occur, and not characterized by the presence of discharge.

In any case in which discharge is present a bacteriological examination should be made. Its results, indeed, are frequently disappointing, nor is this surprising when the exposed situation of the conjunctiva is considered. Nevertheless, the great importance of the recognition of the presence of the gonococcus, streptococcus, or the bacillus of diphtheria, makes the examination of the discharge or membrane of great importance in all the more severe cases.

There are three main principles underlying the treatment of all varieties of conjunctivitis: First, the due recognition of the contagious nature of the discharge. This must be impressed on the patient and his friends or attendants. Nothing that has been contaminated by the discharge must be allowed to be used by any one else. Should some of the discharge be conveyed by a splash or in some other way to the eye of an attendant or surgeon, it must be immediately removed by free irrigation with 1 per cent. boric acid lotion, and the irrigation should be followed by the instillation of a few drops of 20 per cent. protargol. In the more severe purulent cases the patient should be completely isolated, and steps taken to protect the second eye, should only one eye be affected when the patient comes under observation.

The second main principle is to provide for the due removal of all secretion, and to prevent the gumming of the lids, which by closing the palpebral fissure converts the conjunctival sac into a closed cavity.

Thirdly, we attempt to destroy the vitality of the micro-organisms that are producing the disease by the application of certain chemical agents.

Acute Purulent Ophthalmia.

The most frequent cause of purulent ophthalmia is the gonococcus, and if early treatment is not successfully adopted the loss of the affected eye is an event only too probable.

If, as is frequently the case, only one eye is affected, the surgeon should first examine the apparently sound eye, and should this show no sign of inflammation, take immediate steps to protect it from contamination. This is best done by the use of a Buller's shield, but until this can be procured or improvised the sound eye can be efficiently protected by means of cyanide gamgee tissue securely fixed with a bandage. When a Buller's shield is employed, constant attention must be directed to the strapping over the side of the nose, and a vent-hole should be made near the outer part of the eyebrow by inserting a small piece of drainage tube. The shield must not be removed until all discharge from the affected eye has ceased. The next step is the careful removal of all discharge from the affected eye by gentle irrigation with warm 1 per cent. boric acid lotion. The surgeon or attendant should always wear protecting goggles while engaged in the treatment of any of these severe ophthalmias. As soon as the eye is sufficiently clean the lids should be gently separated and the cornea examined. Should there be any doubt as to the presence of any ulceration, a drop of fluorescein solution is instilled. If the cornea is as yet unaffected, the lids are gently inverted without allowing anything to come in contact with the cornea—the slightest abrasion being sure to become infected, with disastrous consequences to the eye—and painted with a 2 per cent. solution of silver nitrate by means of a wisp of absorbent cotton wrapped round a glass rod. If the conjunctiva is very brawny and oedematous, this painting had better be omitted. There is no necessity to neutralize the excess of silver solution; it is sufficient to mop the conjunctiva with a pledget of wool.

The patient is kept in bed and provided with some absorbent cotton and a basin of warm boric acid lotion, and instructed to wipe away the discharge as fast as it is secreted. Every hour or two during the day and at least

every four hours during the night the conjunctival sac is thoroughly irrigated with the same lotion from an undine by the attendant. A little boric acid ointment should be smeared on the lids to prevent them from sticking together.

The silver application should also be repeated daily, the strength and frequency of the applications being gradually diminished as the case improves.

If the cornea becomes affected, 1 per cent. atropine should be instilled every four hours, and if the discharge is still copious and an actual ulcer has made its appearance, 2 per cent. silver nitrate solution should be stippled into the base of the ulcer, but if the discharge has nearly ceased, cauterization with pure carbolic or the galvano-cautery will be advisable. If the ulcer is obviously about to perforate, as shown by the bulging of Descemet's membrane, a small perforation should be made so as to allow the aqueous to escape slowly, and thus prevent a large perforation with prolapse of iris. The later treatment of eyes in which perforation of the cornea has taken place and left a prolapsed iris adherent to the cornea falls outside the scope of this paper; it is sufficient to state that unless operative steps to free the iris or make an iridectomy are taken the eye will be lost through secondary glaucoma.

Ophthalmia Neonatorum.

Ophthalmia neonatorum, which is also in the majority of cases due to the gonococcus, demands similar treatment, but as both eyes are always affected there is no need to protect one. This affection is not so severe as the disease in adults, and if the case is seen before any affection of the cornea, a successful result should usually be obtained. A unilateral discharge of pus is occasionally met with in infants, due to an infection of the lacrimal sac. If keeping this squeezed out and the eye cleansed with a boric acid lotion fails to effect a cure, it is generally easily remedied by the passage of a fine lacrimal probe down the nasal duct, after dilatation of the canaliculus.

The first examination of an infant with ophthalmia neonatorum must be conducted with extreme gentleness, and should there be any reason to suspect that the cornea is affected it is safer to administer a general anaesthetic than to run any risk of increasing the damage owing to the struggles of the patient.

This affection is still, I regret to say, one of the commonest causes of irremediable blindness, and I am convinced that if Credé's method of applying silver nitrate to the eyes of all newly-born children, when there is any reason to expect the possibility of infection, was systematically carried out, it would become one of the rarest.

Muco-purulent Ophthalmia.

Muco-purulent ophthalmia may be due to a great variety of organisms, but the general principles of treatment conform to the account just given. It is generally unnecessary to repeat the application of silver, but the course of the affection is undoubtedly shortened by painting the lids with a 1 per cent. solution of silver nitrate at the first visit. The pain of the application may be much diminished by the use of cocaine, but this is inadmissible in the purulent affection from its damaging effect on the corneal epithelium; if in addition the lids are once more everted a quarter of an hour after the application, and the coagulated epithelium gently removed with some absorbent wool, no lasting irritation will be caused.

A lotion of 1 per cent. boric acid with 0.5 per cent. sulphate of zinc and some boric acid ointment are prescribed. The patient is instructed to lie on his back with the head on one side so that a little pool of lotion can be retained between the nose and the closed lids. A dozen drops are then placed in this position by means of a pipette, the patient meanwhile keeping the lids closed. He then with the hand draws the lids away from the globe, so that the lotion runs well into the fornices. After drying the superfluous lotion with some absorbent wool, a little of the ointment is smeared on the lid margins. This should be repeated half a dozen times a day at first, gradually diminishing the number of applications as the discharge ceases. If during the progress of the disease an ulcer of the cornea makes its appearance, it should be treated in the way already described, but under no circumstances should an eye in which discharge is present be covered with any dressing.

Membranous Conjunctivitis.

Nearly all the micro-organisms that cause mucopurulent ophthalmia may at some stage of their course, in suitable subjects, produce a membrane. It is, however, chiefly on account of the diphtherial and streptococcal affections that it is necessary to separate this class of case. Membranous conjunctivitis occurs chiefly in children, and shows all grades of severity, the more severe cases being accompanied by considerable constitutional disturbance. The pre-auricular gland is swollen, and even occasionally suppurates. Although a bacterial examination should be made in every case it is not advisable to wait for the results of this before using antitoxin. Until a definite bacteriological report has been obtained isolation should be insisted on exactly as in dealing with faucial diphtheria. The local treatment is exactly the same as that for purulent ophthalmia, but painting with silver is not to be resorted to.

Chronic Irritation of the Conjunctiva with little or no Discharge.

In nearly all these cases the source of irritation will be found in some error of refraction or muscular anomaly. If proper correction of these defects does not entirely remove the symptoms, I have seen considerable improvement result from the instillation twice daily of a 15 per cent. solution of protargol. It is to be noted that this or any other preparation of silver is on no account to be used for more than fourteen days for fear of producing silver staining of the conjunctiva.

The mild catarrhal conjunctivitis to which gouty subjects are liable is not benefited by energetic local treatment. Rest and protection from wind and dust, with in some cases the occasional instillation of a drop or two of a solution of cocaine (0.5 per cent.) are the best methods of dealing with this affection.

Angular Conjunctivitis.

There is one other form in this group to which I wish to draw attention, and that is angular conjunctivitis. This has two peculiarities. First, it is almost the only form of conjunctivitis in which the clinical appearance is characteristic of the special organism at work (the diplobacillus of Morax-Axenfeld); and, secondly, it is almost the only form of conjunctivitis which in the absence of suitable treatment tends to persist indefinitely. The inflammation is confined chiefly to the lid margins, with accompanying excoriation of the skin, especially marked at the canthi. The boracic lotion combined with zinc sulphate, applied as described in the treatment of mucopurulent ophthalmia, readily effects a cure.

Trachoma and Phlyctenular Ophthalmia.

The only common forms of conjunctivitis in my fourth group are trachoma and phlyctenular ophthalmia. Time will not allow of the discussion of the methods of treatment suitable for these diseases and their complications.

Tubercle and syphilis rarely attack the conjunctiva. Inasmuch as when they do they usually produce ulceration, they should not be confused with the forms already described. Finally, it must be remembered that certain drugs, of which the chief are atropine and eserine, may occasionally produce a condition of the lids that resembles erysipelas.

Iritis.

The iris, representing as it does the most anterior portion of the uveal tract, seldom passes through an attack of acute inflammation without some slight involvement of the ciliary body. In cases in which this involvement is very severe it is customary to speak of irido-cyclitis, but it must be understood that there is no very hard and fast line to be drawn between the two diseases.

Iritis is usually attended with very severe pain, and it is this which usually brings the patient before the surgeon.

On examination, it will be seen that ciliary injection is present, the pupil is constricted, and its edge is irregular. The reaction to light is sluggish, even before any synechiae have had time to form, and the colour and texture of the iris is altered. As during the acute stage iritis is usually unilateral, these points are easily determined by comparison with the other eye. Hypopyon and hyphaema are rarely met with in simple iritis. If there is much involve-

ment of the ciliary body, the altered condition of the intraocular fluid manifests itself by the presence of deposits on the back of the cornea. As a result of the albuminous nature of the aqueous humour in these inflammations, filtration is so seriously interfered with that the intraocular tension may be so increased as to endanger the eye in the absence of operative interference. These symptoms, compared with my previous remarks on conjunctivitis, sufficiently differentiate the two affections.

Before discussing the diagnosis of iritis from glaucoma I propose to say a few words about the etiology and treatment of iritis. Sepsis, syphilis, and tubercle are the main causes of iritis. Sepsis—under which heading I include gonorrhoea—is by far the most important of the three. Apart from gonorrhoea, the most frequent source of septic infection is to be found in the mouth, in the shape of pyorrhoea alveolaris and soft caries of the teeth. These affections are, as is well known, responsible for other diseases, and, as Hunter pointed out, individual patients exhibit great variations at different periods in the degree of their immunity. Iritis is usually accompanied in this class of case by cyclitis, and it is not uncommon to meet with a patch of inflammation in the choroid. The gonorrhoeal type usually shows much vascular engorgement, and is prone to the early formation of synechiae.

Syphilitic iritis manifests itself in two forms. The commonest is a simple plastic iritis usually seen before the end of the first year. This form may also be seen in congenital syphilis, and usually accompanies interstitial keratitis. A second and much rarer form is seen as a late secondary or early tertiary form, and is characterized by the formation of yellowish-red nodules near the pupillary and ciliary borders of the iris but not in the intermediate zone.

Tuberculous iritis occurs in a miliary and a conglomerate form. In appearance it resembles the late form of syphilitic iritis, from which it is to be distinguished by the history and the failure of specific treatment. There is also rather less general iritis.

I have not mentioned rheumatic iritis, and must confess to a certain amount of disbelief in its existence. It has never been found to accompany acute rheumatism, and the rheumatoid pains complained of may well be due to a mild septic infection.

The treatment of iritis must be local and general. The essential of the local treatment is to dilate the pupil and to keep it dilated. For this purpose I am in the habit of using atropine ointment, 1 per cent. combined with 0.5 per cent. cocaine, for the first three days. The cocaine acts as a direct stimulant to the sympathetic nervous mechanism of the pupillo-dilator fibres, and so increases the effect of the atropine, which acts chiefly by diminishing the hyperaemia and paralysing the constrictor pupillae. The use of cocaine is deleterious to the corneal epithelium, and should be discontinued as soon as the maximum dilatation is obtained. The ointment should be employed every four hours at first, later, as the disease yields to treatment, atropine without cocaine, applied two or three times daily, will suffice to keep the pupil dilated. Hot fomentations or bathings, or dry heat supplied from a Japanese muff warmer, diminish the pain and act beneficially. In all severe cases a couple of leeches applied to the temple are of great service. If high tension persist, paracentesis should be done, and, if necessary, repeated. The general treatment is that of the condition to which the iritis is due. All sources of sepsis, and more especially the mouth, must receive energetic treatment.

The treatment of the sequelae in the shape of numerous synechiae is mainly operative, and the discussion of this point and the value of prophylactic iridectomy in recurrent iritis would occupy too much time.

Acute Glaucoma.

The disease with which acute glaucoma is most liable to be confused is iritis, and, as the treatment necessary for the latter—namely, the dilatation of the pupil with atropine—would infallibly destroy an eye affected with glaucoma, it is evident that the diagnosis is of the greatest importance.

What are the main points of difference?

1. *History.*—In even the most acute cases of primary glaucoma there is usually a history of previous symptoms

in the shape of transient attacks of pain accompanied by misty vision, with haloes round the lights. The acute attack is accompanied by very severe pain, often causing actual vomiting, and therefore liable to be mistaken for a bilious attack. The onset is always sudden, frequently associated with some condition, such as alcoholic indulgence, that leads to raising of the general blood pressure. Vision deteriorates with such rapidity that at the end of a few hours hand movements only are distinguished.

2. *Objective Signs.*—The eye is intensely congested with marked ciliary injection. The cornea is steamy and defective in sensibility. The anterior chamber is shallow. The pupil is semidilated, with regular outline, generally rather oval in shape, with the long axis vertical. It will be remembered that in acute iritis the pupil is generally small, with irregular outline. Finally, the intraocular tension is very considerably increased. Examination of the other eye may show a cupped disc.

If due attention is paid to these points, there should be no difficulty in the diagnosis of ordinary primary acute glaucoma. The cases in which difficulty is found are those of glaucoma secondary to cyclitis or to the obstruction to the intraocular flow due to adhesions of the iris. In these the smallness and irregularity of the pupil, combined with the deep anterior chamber, and possibly the presence of punctate deposits on the cornea, will generally indicate the nature of the complaint.

In all cases of acute primary glaucoma, iridectomy should be performed as soon as conveniently possible. It would take us too far to deal with the proper method of performing this operation, nor do I think it is an operation that should be undertaken by any one who is not likely to have the opportunity of performing more than one or two. It is certainly one of the most difficult that the ophthalmic surgeon is called upon to do.

Is there anything to be done while arrangements for operating are being made? Hot bathing, instillation of a solution of eserine sulphate 1 per cent. every two hours may be successful in reducing the tension; at any rate they should be tried, and a brisk saline purge administered. In all cases in which the intraocular tension is much raised, I prefer immediately before doing an iridectomy to first lower the tension in the posterior chamber by puncturing the eye behind the equator with a Graefe knife. This obviates one of the worst risks of the operation, namely, the dislocation of the lens forwards as a result of the sudden lowering of the tension in front. Where possible this may well be done a few hours before the actual iridectomy. It is simple of performance, and cocaine affords sufficient anaesthesia. For the iridectomy itself a general anaesthetic will be required.

Remarks

ON

PARTIAL THYROIDECTOMY,

WITH SPECIAL REFERENCE TO EXOPHTHALMIC GOITRE, AND OBSERVATIONS ON 113 OPERATIONS UNDER LOCAL ANAESTHESIA.

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DURING the past twenty months I have performed the operation of partial thyroidectomy 113 times, in the great majority of cases for exophthalmic goitre. During that time, watching the cases before and after operation—sometimes through successive operations—certain conclusions have forced themselves upon me.

The question, "Should exophthalmic goitre be treated surgically?" has been answered by the patients themselves in about one half of the cases, and by medical practitioners in the other. Every case had been treated medically until it had become apparent to the physician or the patient that improvement was not taking place. In many of the cases the condition of the patient had become extremely critical.

In cases which are definitely not improving under medical treatment there can be no question as to the

necessity for surgical interference, if one believes that the disease is a thyrotoxicosis, and that the removal from the individual of a large part of the poison-producing body will enable a state of equilibrium as regards the output of thyroid secretion to be regained and maintained. While not for a moment minimizing the risks of the operation (which are very great, and may easily lead to disaster), it may be said that the operation is as safe as any major operation in surgery. I believe that there is no need to fear death either at or following operation, provided it is performed under local anaesthesia.

Difference in Type.

Differences in degree and type with corresponding differences in character and rapidity of response to operative treatment may be noted, and I have begun to classify cases of thyrotoxicosis from the point of view of operation as follows:

1. Those cases which have all the classical signs—namely, goitre, exophthalmos, tachycardia and palpitation, and tremor—but are still able to do some work. The tachycardia is constant and palpitation frequent, especially with a little extra exertion. They may look well or be greatly emaciated, but they have no organic heart lesion and no oedema. Frequently there is complete amenorrhoea. Some patients suffer much from diarrhoea. The appetite is usually ravenous.

2. Cases which have all the classical signs but in which the symptoms have progressed until organic changes have taken place in the heart muscle; or there is dilated heart with inefficient valves. The patient may have an irregular, intermittent pulse. Oedema is present, perhaps only a little on walking about, perhaps constant in whatever part of the body is dependent. In one case it was also marked in the face, where it had been present for some months, on the side which was lowermost during sleep. In other cases there has been simply oedema of the feet and legs on walking, the oedema disappearing on lying down.

3. Cases in which the signs are incompletely developed, but often presenting great toxæmia. There is very little enlargement of the thyroid gland but very marked tachycardia and a constant sensation of smothering. Exophthalmos and characteristic tremor are not present. One cannot call this class of case "exophthalmic goitre"; the term "thyrotoxicosis" is much more suitable.

4. Cases sometimes described as secondary exophthalmic goitre, in which from the history it would appear that the goitre preceded the thyrotoxic condition. The thyroid gland is usually very much enlarged, and the enlargement may be central or unilateral. If the patient is put to bed, it is found that tachycardia is not always present, but palpitation supervenes so constantly on the slightest exertion that the patient is practically invalided. Owing to the size of the goitre and the long period during which it has been present, there is generally some pressure on the trachea, causing dyspnoea on exertion, and often during sleep—frequently, indeed, preventing sleep. There is sometimes some prominence of the eyes, and there is usually tremor.

Response to Operative Treatment.

Cases of the first class respond rapidly and almost completely to operative treatment. They have not lost their recuperative power, and, though they are ill and have all the classical symptoms of the disease, when the poisoning body is removed they at once feel a tremendous difference in themselves, and in a few weeks are almost—I might say completely—well. One woman says she can now do all her household washing and ironing, but scrubbing causes some slight return of the palpitation. Another cooks for her husband and two children, does all the household work, and, as well, teaches six music pupils. Two others, who had been completely invalided, are farmers' wives; each does the housework and a great deal of work incidental to the farm as well. This is the stage at which the operation should be performed, as practically complete recovery can be promised, and the period of convalescence is short.

If the patients have gone beyond this stage and belong to the second class—if there are objective signs of heart failure—the rapidity and completeness of cure varies. All the textbooks and articles which I can find speak of cases of this class as too advanced for operative interference presumably for two reasons: First, because the patient