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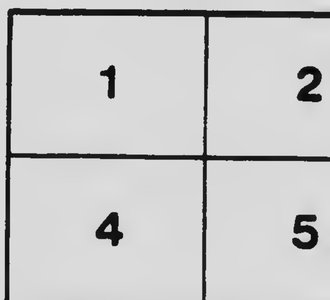

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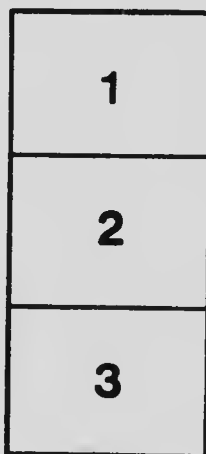

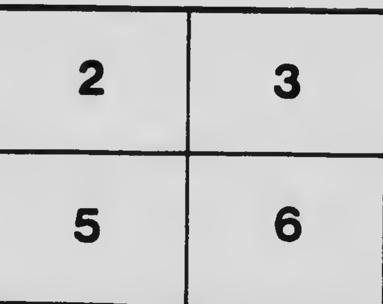

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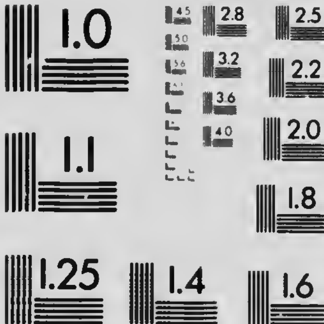

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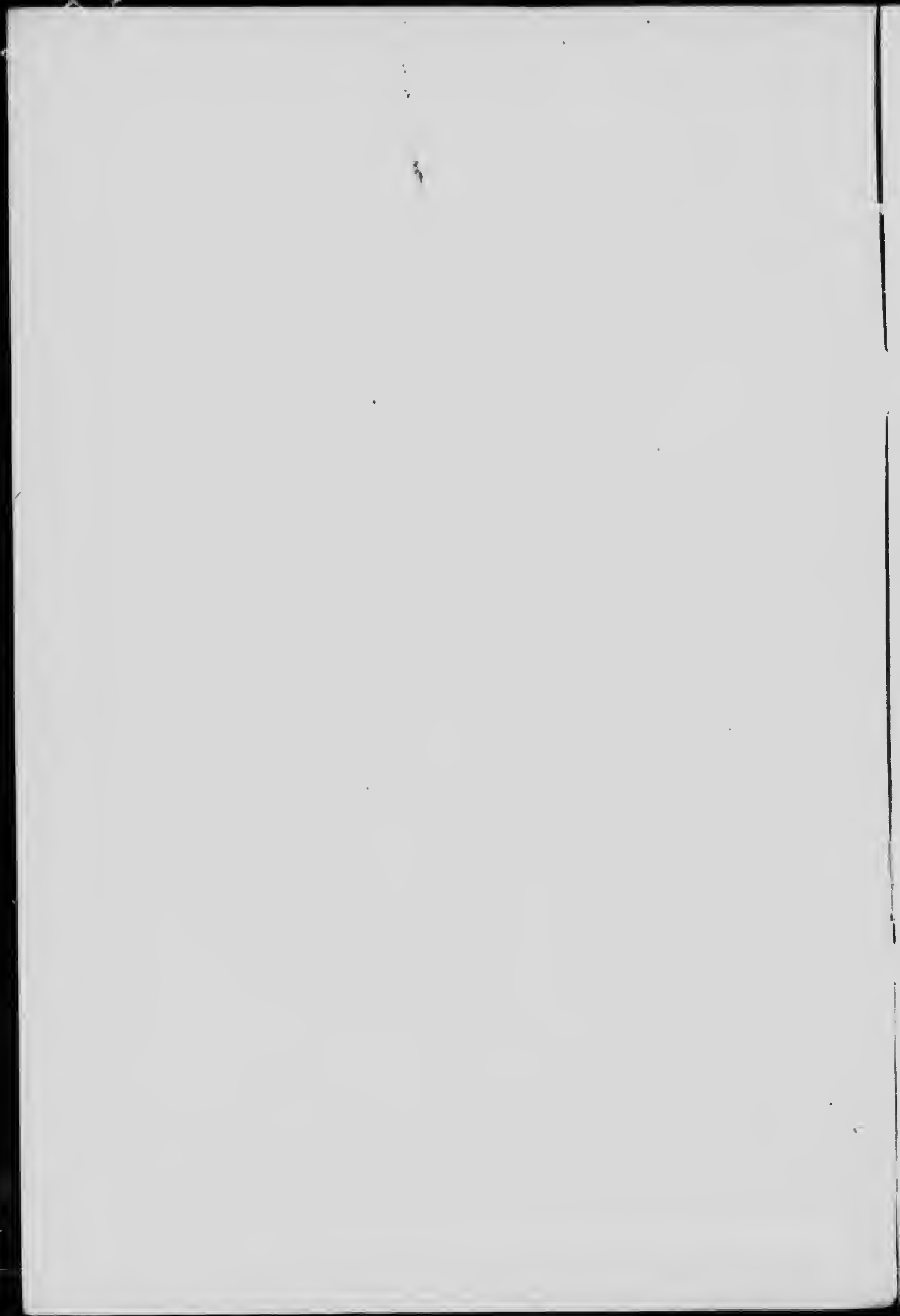
THE SURGICAL TREATMENT OF EXOPHTHALMIC GOITRE.

BY

FRANCIS J. SHEPHERD, M.D., C.M., LL.D., F.R.C.S.E. (Hon.)

Reprinted from the Montreal Medical Journal, Vol. XXXIX., July, 1910, page 448.



THE SURGICAL TREATMENT OF EXOPHTHALMIC GOITRE.

BY

FRANCIS J. SHEPHERD, M.D., C.M., LL.D., F.R.C.S.E. (Hon.)

The treatment of Graves' disease by surgical measures is now considered by most surgeons and many physicians as the only rational method of procedure. If one believes the theory of Moebius, that the disease is due to excessive secretion and absorption of thyroid juice, then it is most logical to remove the cause. Kocher holds that the failure of cure after operation is due to the fact that not enough thyroid tissue has been excised. Physicians assert that in ten per cent. of cases the thyroid is not enlarged, and that in these cases surgical treatment would be of no avail, but the evidence is only based on visual observation and palpation. Now, in several cases on which I have operated, the thyroid has been apparently of a very small size, but on opening up the neck a large mass of thyroid was found beneath the sternum, and this was not suspected before operation. Again, cases of Graves' disease, where the gland has developed degenerative changes, have changed into myxœdema.

I do not advocate operation in every case; for instance, in advanced cases, where secondary changes have taken place and where there are tem[illegible] vomiting, diarrhœa, great restlessness, excessive tachycard[illegible] and considerable dilatation of the right heart, treatment by oth[illegible]an operative measures should be advised. No case should be operated on until the surgeon has had it under observation for some time and the patient has been carefully observed and the more urgent symptoms have been allayed by rest, ice-bags, etc. Crile believes that "psychic excitation" is the most dangerous factor in operations for Graves' disease, and is the chief cause of the hyperthyroidism from which patients suffering from this affection die after operation. To avoid this excitation, after having obtained from the relatives and friends leave to operate, he does not tell the patient he is going to operate, but some days before operation he makes the patient inhale every morning some essential oil (such as eucalyptus) in the inhaler, at the same time applying to the neck antiseptic dressings. On a given morning, having previously given a hypodermic injection of morphia and atropine, he substitutes an

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anæsthetic for the essential oil, and thus the patient undergoes operation without any previous knowledge of the fact. I have tried this method in a number of cases and have been much pleased with it.

Another very valuable suggestion has been made by Charles Mayo, which I have found of great use, namely, to avoid the toxæmia following operation, saturate the patient with water, by mouth, continuous irrigation through the rectum, or even by large subcutaneous injections of normal saline.

In apparently the most favourable cases of true Graves' disease the operation is not without danger. In cases in which the operation has been most successful, within 24 hours, toxæmia, or hyperthyroidism, may appear. This is manifested by the tremendous pulse rate, restlessness, the great nervous excitement, high temperature, and sometimes delirium, followed by death in 24 hours. Even flooding the patient with saline is of no avail. In other cases, danger from loss of blood and absorption of the toxic blood lessens the chance of recovery of the patient. In the very vascular forms, accompanied by great nervousness, excessive tachycardia, and a feeble heart, operation had better not be undertaken.

As to the anæsthetic, for some time past I have used a mixture of Ether and Choloroform, 2-1. General anæthesia administered by an expert need not be dangerous. Local anæsthesia I have not found satisfactory. In Graves' disease it increases the psychic excitation, which every operator is so anxious to avoid. If there be extensive heart lesion, and it is determined to operate, local anæsthesia might be practised, but in such cases operation had better be avoided altogether.

Other methods of operation than excision have been advocated for the cure of Graves' disease, such as ligature of the four thyroid arteries, exothyropexy, or the exposure of the thyroid without excision, and excision of the cervical sympathetic, as advocated by Jaboulay. Exothyropexy has been abandoned, and excision of the sympathetic has only relieved the exophthalmos, the tremors and tachycardia persisting. Ligature of the four thyroids has been proved almost as dangerous as excision of the gland, and not nearly so efficacious. But ligature of two or more thyroid arteries has been practised as preliminary to excision with success.

Having determined on operation, the patient having been suitably prepared, and half an hour before operation a hypodermic injection of morphia and atropine given, an anæsthetic is administered by a skilled anæsthetist and the operation performed. I need not go into details of operation, but should advise that it be done rapidly; that any bleeding

point should be carefully secured, for much bleeding is dangerous, chiefly on account of the absorption of the toxic blood, and that the parathyroids be left in situ as far as possible, though, personally I have never seen a case of tetany follow even where these have been disregarded, yet such cases are occasionally reported. It is my practice to secure the superior thyroid artery, turn the gland over, and secure the inferior thyroid, and then remove the lobe of one side carefully without too much handling. It is my custom to remove one lobe and the isthmus, and, if the other lobe is much enlarged, to ligature the opposite superior thyroid and perhaps remove part of the remaining lobe. Having sutured the divided muscles, the wound is closed with drainage; this I continue for from 24-48 hours. Immediately after operation, rectal irrigation is begun, and often, in addition, I use large subcutaneous injections of salines.

If the time for operation is properly chosen and not delayed too long, the recovery of the patient is the rule. The fatal cases, which are very distressing, are those in which, previous to operation, there has been temperature, great excitability, and perhaps delirium, with secondary changes usual in cases in which the disease has been of long duration. If all cases are not cured by operation, all are benefitted. Some cases after a year or two relapse temporarily and then fully recover; others come to a second operation and more of the gland is removed with benefit.

The first symptom to be relieved after operation is the tachycardia, and if the heart is not too severely damaged it recovers completely. The exophthalmos is slow to disappear; the gastro-intestinal symptoms are almost immediately improved, the patient gains weight, and the depression and melancholia quickly disappear, and the patient after a few months to a year feels capable of resuming occupation, and intellectual effort is a pleasure rather than a pain. In one case, however, where all the prominent symptoms disappeared soon after operation, the repression and melancholia persisted, and although the patient went home and resumed her household duties, a few months later I heard she had put an end to her life by hanging. Another case, operated on after years of invalidism, was soon as well as ever, being able to climb hills and attend to her usual occupation without effort. Two years afterwards the portion of the gland that was left began to enlarge and nervous symptoms reappeared, tremors, tachycardia, emaciation, etc. She wrote me she was coming back for further surgical treatment, but I heard no more of her for three years, when one day she walked into my consulting room a perfectly well-nourished girl, enjoying life and apparently in

perfect health. There was no trace of thyroid enlargement, and she told me the relapse lasted only a few months, and that with rest all the nervous symptoms disappeared. These temporary relapses are not uncommon, but they gradually become less severe and finally disappear altogether.

The cases referred to, in which operation had been performed, and in which the risk is considerable, are those which have always been first under the care of a physician and have undergone prolonged medical treatment, cases in which no one has any doubt as to the severity of the disease, and many of these patients are totally incapacitated from performing any work at all. These cases are the ones which give the surgeon grave cause for worry. In all such cases I have operated on (in the neighbourhood of 50), which recovered from the operation, a cure or great improvement resulted. In two cases in which relapse occurred, a second operation was performed with complete relief to the patient. Several relapsed and got well without operation. Others have after a year or more completely recovered and some have married and still remained well. Some of these cases have been operated on as many as 15 years ago. In no case have I seen any tetany, notwithstanding that in early cases the parathyroids have been quite disregarded. In some cases the parathyroids have been found imbedded in the gland or removed with one-half, and yet no ill results followed. I may perhaps have been fortunate, but such is the case that in the removal, partial or complete, of over 200 goitres, I have never seen tetany, and in only one case, and that one of carcinoma, have I seen myxœdema. In his operation for exophthalmic goitre, Kocher's latest statistics are : 95 per cent. of operative recoveries, with cure in 75 per cent., and improvement in the remaining 20 per cent.

Statistics as to the results of operation are very misleading, especially in Graves' disease, for there is a form of acquired or pseudo-Graves' disease, which Kocher calls Struma Gravesiana Colloides, where operation is quite safe, and these cases are often included in the brilliant results of the operative procedure for the cure of exophthalmic goitre. In this form the goitre has existed long before the nervous symptoms have developed; in fact, the symptoms of Graves' disease are, so to speak, grafted on the common form of colloid goitre. The symptoms are less severe than true Graves' disease, exophthalmos is often wanting, there is less dilatation of the heart, and altogether the disease is of a milder type. In such cases operation causes but little anxiety. I have operated on many such and always with resulting cure. I have no doubt, as the technique of operation for exophthalmic goitre becomes more perfected

and our knowledge of the cases proper for operation improves, the immediate results of operation will be better.

One thing I should like to impress on the physicians is that early cases are much safer to operate on than old ones, and the surgeon should not be called in only to cases which are desperate and have yielded to no medical treatment, but he should see the cases as soon as diagnosed, and a consultation would then determine whether the case is one for surgical interference. Those cases in which medical treatment [illegible] not are not the best for surgical operation.

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