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THYROID SURGERY FIFTY YEARS AGO, WITH A CONTRIBUTION ON INTRATHORACIC GOITRE*

BY

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Your Dean has done me honour by inviting me to deliver the second lecture in memory of Thomas Percy Legg, formerly surgeon to this hospital. Legg belonged to a much earlier generation of students than I at St. Bartholomew's, and I do not remember that I ever was privileged to meet him—not even at Queen Square, though he examined there for many years. He was not a prolific writer, and I would say that he was not very well known in the outside world; but the foundation of this lecture is a testimony to the esteem in which he was held in his own hospital. He was in the truest sense one of that disappearing genus the general surgeon, and his range was wide, so that two of his main interests were subjects so diverse as cleft palate and the surgery of the thyroid gland. The former of these subjects was commemorated in the first Legg Memorial Lecture by Denis Browne in 1948. It now falls to my lot to consider the state of the thyroid surgery of his time, adding as a pendant a small contribution of my own.

Cheyne and Burghard's Manual

There was a textbook famous in its time, Cheyne and Burghard's *Manual of Surgical Treatment*, first published in 1902. Sir Watson Cheyne and F. F. Burghard were both at that time surgeons on the staff of this hospital, and as general surgeons were able to cover the whole field between them, and there is no indication of what parts either of them wrote. A new edition of this splendid book was published in 1913, but by then times were changing, and the authors called on the help of two younger surgeons, T. P. Legg and Arthur Edmunds, both assistant surgeons to this hospital, so that the book remained entirely a King's College product of which you, their successors, may be proud.

It has been my fate to be a member of several library committees, usually as chairman, and on a number of occasions I have had to resist suggestions that shelf-space might be created by clearing out old editions of textbooks, superseded, as it was supposed, by newer and better reprints. This attitude is not a new one, and is exemplified by the curators of the Bodleian Library at Oxford, who, when the second edition of Shakespeare's plays was published in 1632, sold their copy of the first folio of 1623 as out of date and useless. Their successors were sorry three centuries later when they had to pay several thousand pounds to get it back on to their shelves. With this warning before them, library committees should be very careful about discarding old editions, even though there should be ten editions of the same book.

Librarians are guardians of history, and a moment's thought will show that there could be no better way of surveying the history of the subject than by noting the changes in successive editions of a book, always supposing that the author strove to keep abreast of his subject. It is notorious that textbooks are apt to have a time-lag in the presentation of new material, but let us not in these surroundings accuse Cheyne and Burghard of this lapse. It is, in fact, instructive to compare the sections on thyroid surgery in the two editions of 1902 and 1913, the later one having been partly rewritten by Legg. In 1902 Kocher, of Berne, was the greatest European figure in thyroid surgery, and in this country James Berry was coming to the fore. His book on the thyroid was published in 1901. Berry, like Legg, had been trained at St. Bartholomew's, and both of them worked on the staff of the Royal Free Hospital, which, with Cecil Joll to carry on the work, has been ever since a centre of thyroid surgery.

Much of Cheyne and Burghard's section on the thyroid, though written fifty years ago, sounds surprisingly modern, for, after all, many of the fundamentals in any subject do not change. But there are some pleasant old-fashioned touches, as when you read that the treatment of suppurative thyroiditis is by the use of calomel, salicylate of soda, and leeches. Again, the sovereign remedy for simple goitre is stated to be iodine and iodides, whereas thyroid extract is said to be useless. Nowadays you would be told exactly the opposite. As an alternative it was thought worth while to record that "in India the red iodide of mercury ointment is rubbed in thoroughly over the goitre, and the neck is then exposed for some hours to the rays of a hot sun; it is stated that very great improvement has been obtained in this way, but unfortunately in this country the method is quite useless and is not worth while attempting." Perhaps this was included in anticipation of the summer of 1949, but it has borne no fruit. It would, anyway, be as good as using "iodex."

It is of interest to note that Kocher's transverse incision was then recommended as the best for thyroid operations, and it is not surprising that the anaesthesia was found to be the great difficulty and the chief danger to the patient's life. The skill and rapidity of the surgeons of those days in dealing with large goitres is implied in the light-hearted way in which the possibility of haemorrhage is mentioned, and in the statement that "about twelve ligatures" are all that need usually be applied. Modern operators may well hide their heads in shame. Even so, the inferior thyroid artery was not to be tied in continuity, but its branches were seized and tied in a bunch as they entered the gland. The

*The Legg Memorial Lecture delivered at King's College Hospital on December 2, 1949.

danger to the recurrent laryngeal nerve was, of course, fully realized (this nerve had been discovered and described by Galen in the second century A.D.), but the parathyroid glands were unknown and therefore not mentioned. As lately as about 1927 I asked Sir James Berry to look at a section of a parathyroid body. He put his eye to the microscope, snorted, and said he didn't believe it: that was indeed the end of the matter so far as he was concerned at that time, though he may have changed his mind before his death in 1946. In his book of 1901 he had just mentioned the parathyroids, and said of them, "They differ from the accessory thyroids in not containing vesicles filled with colloid, and their function is supposed by some to be different from that of the thyroid gland itself. A specimen showing the parathyroid of a dog may be seen in the museum of St. Thomas's Hospital." That was all. He did not refer to them in his contribution to Burghard's *System of Operative Surgery*, published in 1909.

Exophthalmic Goitre

Of exophthalmic goitre the writer in 1902 observed, "This is essentially a medical affection and comes under the care of the physician, but as attempts have been made of late to employ surgical treatment in these cases it may be as well to refer to it here." This cautious attitude was no doubt justified at that date. The anaesthetic and post-operative dangers were very great and the mortality extremely high. Berry had expressed the same view in 1901, and even in 1909 in Burghard's *System of Operative Surgery* he wrote: "It must be remembered that all operations for exophthalmic goitre involve serious risk to life and should seldom be recommended." This was the view of the most experienced thyroid surgeon of this day, and it was not, indeed, until Thomas Peel Dunhill arrived in London in 1920 that the whole subject underwent so radical a change.

In 1902 some attention was given to the operation of removal of the cervical sympathetic chain for exophthalmic goitre. I am informed by the President of the Royal College of Surgeons that it was Legg who revised the thyroid section in the 1913 edition of the *Manual of Surgical Treatment*. It was disappointing to find, on comparing the two editions, that there was very little change in a great part of the article. The leeches, the red iodide of mercury, and the twelve ligatures were still there. Thyroid extract was now said to be "sometimes extremely useful" in treating simple goitre. The value of "intratracheal insufflation" was mentioned in relation to the dangers of the anaesthetic, but the description of the operation of thyroidectomy was almost unchanged. A glance, however, at the pages on exophthalmic goitre was reassuring; they had been completely rewritten, and Legg had now run ahead of his friend and colleague, James Berry. "During the last few years," he wrote, "the surgical treatment of this affection has been undertaken with increasing frequency, and therefore it is necessary to discuss it in some detail."

The use of iodine in exophthalmic goitre was still completely misunderstood, and it is coupled with thyroid extract as contraindicated. On the other hand, the primary and secondary forms of toxic goitre are recognized, the operation of cervical sympathectomy is condemned, and, best of all, the value of ligation of the thyroid arteries and of partial thyroidectomy is fully recognized. In 1902 ligation of arteries was regarded as of no value; its importance as a preliminary stage and as a life-saving operation was not appreciated. In 1913 opinion had certainly gone too far the other way with the statement that "in early cases ligation of one or both superior thyroid arteries will often bring about a cure." Clearly the patients had not been observed

over a long enough period, otherwise the inevitable relapse would have been seen.

The same lack of experience is shown in the description of the operation of partial thyroidectomy, where removal of one lobe only is advocated, though it is admitted that a second operation on the other lobe *may* be carried out at a later date. We know now that removal of one lobe is never adequate, though until the advent of thiouracil it was sometimes safer to do the operation in two stages. Legg was fully aware of the danger of haemorrhage in this operation and of the value of extra fluids after operation. He was in favour of using local rather than general anaesthesia, and was aware of the complications introduced by the cardiac disease which so often accompanied the goitre.

As examples of the way fashions in medical treatment come and go, there are Legg's cautious references to the treatment of exophthalmic goitre with the serum of thyroidectomized goats, and with vaccines of organisms of the colon group obtained from the faeces of the patient. It was, he said, "too early to speak definitely of the value of this treatment," though as a candidate for qualification in 1913 I had to recite these little pieces, particularly the one about the thyroidectomized goats.

Legg and Berry

I have already mentioned that Legg and Berry were colleagues at the Royal Free Hospital. Berry certainly achieved the greater reputation as a thyroid surgeon, though there are signs in their writings that Legg was possibly the more progressive. His judgment was perhaps also more balanced, as is suggested by his not mentioning in his article the preposterous operation known as "exothyropexy." This was described by Berry in his book of 1901, and again in 1909 in Burghard's *Operative Surgery*. This operation consisted in exposing the enlarged thyroid gland, whether simple or toxic, on the surface by dislocating both lobes through a long incision in the midline of the neck. The raw surface was then left to granulate and cicatrize. The superficial vessels tended to thrombose, and sometimes the gland shrank in size. The complications were numerous and serious—sepsis, haemorrhage, painful dysphagia, and asphyxia. This frightful and senseless procedure had its origin in France, and Berry observes that it was unlikely to become popular in this country—a testimony to the common sense of British surgeons. Why, then, did he think the operation worth describing at some length? Legg certainly did not, and he made no reference to it.

Intrathoracic Goitre

I have said that Legg made little change in 1913 in the account of the operation for non-toxic goitres. There was, however, one interesting addition—namely, a page of new matter dealing with intrathoracic goitre. A certain amount has been written on this subject since Legg's day, though his brief remarks contain the essentials of the matter.

The first difficulty that we encounter in treating of the subject is that of nomenclature. Legg wrote of "intrathoracic goitre"; Berry called it "substernal." Other writers have called it "mediastinal" or "aberrant mediastinal" goitre; yet others call it "plunging goitre" in reference to the mobility of some of these tumours, which may be sometimes in the neck, at others in the thorax. No doubt all these names have their justification, since there are so many different degrees of descent of the gland.

When the thyroid gland enlarges it can, in general, do so in only two directions. Anatomical limitations prevent its going backwards or to the sides; gravity and the base of the skull prevent its going far upwards. It can bulge

forwards by stretching the pretracheal muscles and skin, and sometimes becomes enormous in this way. More often, however, assisted by gravity, it enlarges downwards behind the mesial ends of the clavicles and the sterno-clavicular articulations, or it may pass the first rib and come to lie truly within the thorax. In this position the tumour is likely to be partly within the anterior mediastinum and so behind the upper part of the sternum. It may also enlarge the mediastinum by compression of the upper lobes of the lungs and so lie behind the upper two or three ribs.

There are therefore two main degrees of descent—retro-clavicular and intrathoracic—and it seems to me that these two terms will cover the great majority of goitres that are so commonly met with in these situations. Every thyroid surgeon of mature experience will have seen many of them, and will have noticed how often these extensions have been missed clinically, or sometimes, even at operation, by inexperienced operators. It is surprising how low down goitres may extend without causing pronounced symptoms, the wandering masses of thyroid tissue accommodating themselves to their surroundings. Frequently they reach the arch of the aorta or some distance below it. A specimen removed some years ago was mounted in a jar with the ribs and great vessels marked on the glass so as to show its relations (now in the museum of the Royal College of Surgeons).

The main symptom caused by intrathoracic goitres is dyspnoea, produced by displacement and compression of the trachea, particularly at the thoracic inlet. It is the effect on the trachea which makes the goitres usually quite easy to demonstrate on an x-ray film. The tumour itself may produce only a vague shadow, but the deformity of the trachea will be readily seen. Besides dyspnoea, other symptoms which may be seen are numerous. They include orthopnoea, alteration of the voice, and venous engorgement at the root of the neck and over the upper part of the chest. Dysphagia is very unusual with an innocent tumour, the oesophagus being a muscular organ able to look after itself. Paralysis of a recurrent laryngeal nerve with abductor paralysis, or of the sympathetic chain, does occur but is uncommon. Chronic bronchitis is a common complication. The differential diagnosis includes tumours of the thymus gland and aneurysm of the great vessels: here it is well to remember that thyroid tumours can be very vascular and may show pulsation on the x-ray screen. Usually the clue is given by the fact that clinical examination will detect that the lower limit of a goitre cannot be felt above the clavicle with the fingers, or that the upper pole of an intrathoracic tumour can be felt in the neck.

So much for the ordinary intrathoracic goitre. Another very rare variety has been described by American writers as "mediastinal aberrant goitre" (Rives, 1947). Very few, only sixteen in Europe and America over a period of ten years, have been described. The definition of such a tumour lays down that it shall be wholly intrathoracic and shall have no demonstrable connexion with the thyroid gland in the neck. There may be a vascular pedicle from above, since its blood supply will usually come from the neighbourhood of the inferior thyroid artery; occasionally the blood supply may come from the subclavian artery or even the aorta. Tumours of this kind have been found behind the oesophagus or resting on the diaphragm. Trans-pleural operations may be necessary for their removal, but I have no personal experience of such problems.

Operative Treatment of Intrathoracic Goitre

The operative treatment of intrathoracic goitre is often not very difficult, but a considerable technical repertory may

be needed. If an intrathoracic extension of a goitre has been diagnosed the surgeon must be prepared to open the mediastinum, as first demonstrated by Sir Thomas Dunhill in 1922. He found it necessary to do so for removal of a nodular goitre which extended below the bifurcation of the trachea. Almost always, however, the tumour can be removed through the neck. Should the tumour be retro-clavicular there will clearly be no great difficulty, as it can easily be dislocated upwards with the lobe of which it is a part. With an intrathoracic extension it may be difficult or impossible to introduce a finger beside the tumour and to reach its lower border, so that delivery of the tumour is prevented. If any force is used in order to effect this there is a danger of tearing a large vessel such as the subclavian or left innominate vein and of starting almost uncontrollable haemorrhage.

It has therefore always seemed to me better, in the face of real difficulty, to proceed with gentleness and guile. Attention is for the time being directed entirely to that part of the tumour which is accessible in the neck. Its vascular connexions above and behind are severed and controlled; its connexions with the side of the larynx and trachea are separated; the isthmus is sometimes divided. The whole of that lobe of the thyroid gland has now been detached from its surroundings in the neck. The lobe is then gently pulled upwards and the thoracic portion follows, usually without much resistance, though it sometimes can be assisted with a finger alongside. The intrathoracic goitre comes up, in fact, like a cork out of a bottle, though with considerably less difficulty.

It is always reassuring to remember that the only vascular connexions of an intrathoracic goitre are the inferior thyroid veins draining into the left innominate vein. These started at the root of the neck when the thyroid was still restricted to that area, and do not seem to shorten when the gland descends, so that there is little danger of tearing them unless undue violence is used. By employing the method described these veins can be clamped and tied at leisure after the delivery of the gland from the thorax.

Having performed a large number of operations of this kind, I have found that nearly all intrathoracic goitres can be dealt with in this way. Sir James Berry used to employ a dinner-spoon to assist in thyroid delivery from awkward corners, and I dare say Legg may have done so too; but I would deprecate the use of any special or homely instrument for this purpose. Guile is better.

Some operators have advocated the evisceration of difficult intrathoracic thyroid tumours—or *morcellement*, to use an obstetrical term. This may occasionally have its uses, and certainly the evacuation of fluid from a cystic tumour should be done when possible; but, in general, evisceration is a messy method, and since so many of the goitres are nodular, with separate masses hanging together by strands of connective tissue, part of the goitre may be left behind unless operative technique is clean and precise. Although intrathoracic masses sometimes grow larger in their lower part than they are at the waist corresponding to the thoracic inlet, they can nevertheless be gently coaxed out of their retreats.

Serious Problems

Having thus minimized the operative terrors of intrathoracic goitres in general, I now wish to emphasize them by drawing attention to more serious problems with which the thyroid surgeon may occasionally be confronted. There is always danger lurking in the acquirement of fixed habits of mind. Thus a thoracic surgeon who assumes that all intrathoracic tumours can be suitably removed through

a transpleural approach may be for a few moments dismayed when he finds that a tumour supposed to be of thoracic origin has its main vascular connexions some way up in the neck. He must then hurriedly try to recollect what he once knew years before about the anatomy of the neck and attack his problem through another incision a long way from where he started. In the same way I have long maintained that any general surgeon who aspires to be an exponent of the surgery of that endocrine triad the thyroid, the parathyroid, and the thymus must be prepared to extend his range, when called upon, into the mediastinum, or even the pleura and pericardium. The thyroid and the parathyroid may, and the thymus must, make this demand. I am speaking to-day only of the thyroid, and I may give an example.

Case 1

A female patient aged 21 had had a nodular goitre, to her knowledge, for seven years. The trachea was displaced to the right in the neck, and there were engorged veins over the upper part of her chest; these facts suggested that there might be an intrathoracic goitre, but she had no embarrassment of breathing. She had a persistent tachycardia of 80-120 in bed, but no other obvious signs of toxic complications. X-ray photographs showed that there was indeed a large mass in the mediastinum with displacement of the trachea to the right and backwards. Moreover, the presumably thyroid tumour showed many areas of calcification, which was surprising in a patient so young.

At operation through the ordinary collar incision in the neck the left lobe of the thyroid was found to be very large, extending upwards behind the pharynx to the base of the skull. When this upper part had been detached it was found that its connexion with the lower part in the mediastinum had been lost, the nodule formation having resulted in the development of more or less separate masses. A finger exploring from above could detect a mass in the left side of the thorax; but this mass was quite fixed, and it became clear that the ordinary means of delivery could not be used. The mediastinum was accordingly opened by splitting the sternum down the centre to the level of the third rib, the two halves of the bone being freed by cutting it sideways into each second intercostal space, according to Dunhill's method. It was now found that the massive calcified goitre was densely adherent to the back of the sternum and the structures behind it in the mediastinum. The trans-sternal exposure made it possible to remove safely the whole mass, detaching it successively from the sternum, the pleura on each side, the trachea, and the left innominate vein. The tissue removed weighed almost 300 g.; the recurrent laryngeal nerves escaped injury. The thymus gland was removed at the same time, a normal gland being in demand for the biochemists. The patient was quite well when seen two months later.

Goitre in the Posterior Mediastinum

The history just described was that of an ordinary intrathoracic goitre which had undergone unusual pathological changes. The next problem I wish to describe is that of intrathoracic goitres which have enlarged in an unusual direction. The great majority of these descend, as they grow, into the anterior mediastinum immediately behind the sternum and inner ends of the ribs. Occasionally, however, they choose to enlarge downwards and backwards, so reaching the posterior mediastinum on one or other side behind the trachea and the upper lobe of the lung. It is not so very uncommon for parathyroid tissue to reach this area, and it is one of the places where a tumour of the gland must be sought if it cannot be found in the neck. A branch of the inferior thyroid artery proceeding downwards and backwards has been described as providing a guide to the position of the tumour. Parathyroid tumours are comparatively small and may be fished up from the posterior mediastinum with a finger. Thyroid tumours, on the other hand, tend to get very large, and can by no means be

removed so easily. I have recently seen two patients presenting this particular problem.

Case 2

A woman aged 55 with a history that since 1941 her breathing had tended to be noisy had had occasional attacks of bronchitis. Recently she had two attacks of paroxysmal tachycardia with pain in the chest. She was slightly short of breath, especially when talking, but had not noticed any change in her voice, and was able to lie flat in bed. She had not, in fact, sought medical aid, but when taking part in a "mass radiography" at University College Hospital she was found to have a large pear-shaped shadow in the upper part of the right posterior mediastinum, behind the trachea, which was displaced with the oesophagus and aortic arch to the left.

She was a healthy-looking person with a pulse of 78, B.P. 145/90. The trachea was deviated to the left in the neck, but no neck swelling could be seen. A tumour could just be detected by deep pressure behind the right clavicle, and there was a loud respiratory stridor on auscultation of this region. The patient showed no clinical evidence of thyrotoxicosis, although she was mentally very unstable. The diagnosis of intrathoracic goitre was made because it was believed that the tumour had its upper connexions at the root of the neck, but it was evident at once that this very large mass could not be removed by operating simply from the neck, as it would be quite inaccessible.

The operation was therefore planned as a mediastinal exploration. The sternum was split to the third rib, and when this had been done it was possible to find a vascular pedicle at the root of the neck leading down to a thyroid mass which lay in the right posterior mediastinum behind the right innominate vein. The opening up of the thoracic inlet made it possible to displace the vessels forwards and then to pull the tumour up from behind them. It would have been quite impossible to do this without the sternal split. The alternative would have been a transpleural thoracotomy, but then it would have been difficult to reach the vascular pedicle. As it was, the removal was effected without great difficulty and the patient made a good recovery.

Case 3

A woman aged 55 had complained of some shortness of breath for ten years, getting worse in the last two years. She also had an irritating cough, substernal pain, and some dysphagia. She had no toxic signs or symptoms.

X-ray films (Fig. 1) showed a rounded mass occupying the midline of the thorax and projecting to the right of the vertebral

FIG. 1.—Case 3. Antero-posterior view.

FIG. 2.—Case 3. Posterior mediastinal goitre, showing the trachea in front; lateral view.

column. The lateral view (Fig. 2) was more startling because of the extreme displacement of the trachea, which was pushed far forward by the tumour and was curved over it. On the screen the tumour appeared to pulsate, and the radiologist regarded this as suggesting an aneurysm of the arch of the aorta. However, a thyroid enlargement could be detected on the left side of the neck, and the tumour was diagnosed as an intrathoracic goitre. Exploration of the neck confirmed the presence of a thyroid tumour in the chest, but it was so fixed that clearly the mediastinum had to be opened for its removal. The sternum was accordingly split to the third intercostal space. It was then found that the neck of the tumour was behind the left innominate vein, which was stretched tightly over it. With the freedom gained by the mediastinotomy it was possible to coax the tumour up from behind the great venous trunk. Again it would have been impossible without this extra freedom. The tumour weighed 290 g., and had the structure of an adenoma of the thyroid.

I have described these two operations on goitres in the posterior mediastinum because this variety of intrathoracic goitre has received hitherto little attention. Only seven examples have been described in the literature of the world, and the information given suggests that none of them was comparable to the two enormous tumours which I happen to have encountered. Indeed, the seventh, described by Mora *et al.* in 1944, weighed only 21 g. after removal, and the x-ray film taken after operation, which is reproduced in their article, suggests that part of the tumour was still present in the thorax. Cecil Joll (1932) does not mention posterior mediastinal goitre in his book, the most comprehensive work on thyroid surgery ever written. Also it is evident from his remarks that he had never in all his immense experience found it necessary to divide the sternum, and I can only conclude that he had never seen a goitre in this peculiar position.

The last patient that I wish to describe was of a somewhat different type.

Case 4

A woman of 48 had recently complained of shortness of breath and loss of weight. She had attended in 1942 at a London hospital and her thorax had been x-rayed. An enor-

mous shadow was seen in the upper part of the chest, and a diagnosis of mediastinal sarcoma was made. She was then transferred to St. Bartholomew's for treatment by million-volt x-ray therapy, and was admitted under Dr. Scowen. The diagnosis, however, was questioned, and the patient was discharged, without treatment, for further observation. This did not please the authorities at the first hospital, and she was again sent to St. Bartholomew's, but this time direct to the Radiotherapeutic Department for treatment as an out-patient. A few treatments were given, but the patient became so much worse that she had to be readmitted to hospital under Dr. Scowen. He had suspected the presence of a thyroid tumour before, owing to the very definite outline of the shadow, but this time he was sure, because the patient now presented undoubted signs of severe thyrotoxicosis. She was then transferred to the New End Thyroid Clinic for operation. The x-ray appearance of the chest was sufficiently alarming, since the tumour filled the whole of the anterior mediastinum, extending well down on to the pericardium (Fig. 3). It was obvious that a mediastinotomy was absolutely necessary if the tumour was to be removed, since no thyroid gland could be felt in the neck at all—a fact which probably accounted for the original wrong diagnosis.

The operation was done on May 23, 1942, and proved to be the most terrifying surgical experience of my career. A low collar incision had to be carried through a number of very large distended veins at the root of the neck. No thyroid tissue at all could be found on the right side. There was an apparently normal lobe on the left. The sternum was then split as far as the fourth intercostal space, and when the doors of the mediastinum were opened there lay exposed to our view an enormous plum-coloured tumour with blood pouring from every part of its surface. At first it appeared that if I proceeded the patient would die of haemorrhage on the table, but I derived confidence from the thought that a thyroid tumour could have no major sources of blood supply in the thorax.

The tumour was gradually separated from its surroundings by working first on one side and then on the other, packing off the separated surfaces bit by bit with gauze. Eventually I isolated a very large vascular pedicle which turned down from the right thyroid axis, and when this had been divided the tumour had no further connexions above. It could then be

FIG. 3.—Case 4. Aberrant intrathoracic toxic goitre; antero-posterior view.

FIG. 4.—Case 4. Thorax after removal of aberrant intrathoracic toxic goitre.

lifted out of the thorax and removed after two venous channels below had been divided. These appeared to pierce the pericardium to empty direct into the auricle. The patient was given a blood transfusion at the conclusion of the operation and, as might be expected, had a severe thyrotoxic reaction during the days following. Her convalescence was complicated by collapse

of the lower lobe of the left lung, but she eventually made a good recovery with disappearance of all signs of thyrotoxicosis. She has been well since that time. Fig. 4 shows the condition of the thorax nearly three years after operation, and Fig. 5 depicts the specimen removed.

FIG. 5.—Case 4. The specimen removed, showing vascular pedicle. Weight, 354.5 g.

place in the surgery of goitre. I have also described a form of intrathoracic goitre in the posterior mediastinum which has seldom been recognized or described. Lastly, I have shared with you the alarming experience of operating on a true, very large, aberrant intrathoracic goitre with severe thyrotoxicosis, an association which, so far as I know, has never been described.

[The lecture was illustrated with a coloured film of the operation of mediastinotomy for removal of the thymus gland.]

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ORAL HORMONAL THERAPY FOR MENSTRUAL DISORDERS

BY

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Disorders of menstruation comprise a large and important group of conditions for which many women at some time or other seek medical advice. While it is true that they are essentially the outward symptomatic manifestation of underlying disturbances, in such a large proportion is the condition dysfunctional that it is permissible to consider them as disease entities in their own right and to prescribe treatment on that basis. Clearly the adoption of this attitude presupposes the elimination by the appropriate methods of systemic or local disease which might itself give rise to the menstrual disorder in any particular case, though it must be admitted that this is often easier in theory than in practice. In the account which follows it is to be understood that, except where specifically indicated, only disorders of function are under consideration and that where underlying organic disease exists the correct treatment is that directed towards the cure of the disease itself.

During recent years the ready availability of hormones—particularly the steroid hormones and their synthetic analogues—has led to their increasing use in the treatment of menstrual disorders, and the fact that oestrogens, androgens, progestogens, and gonadotrophins have all had their enthusiastic advocates would suggest strongly that empiricism has played an altogether excessive part in determining such therapy. It is not, however, the purpose of this communication to discuss the relative merits of the various techniques that have been proposed; on the contrary, attention will be directed solely towards a therapeutic regime based upon that originally described by Hamblen (1945) and involving the oral administration of oestrogens and progestogen. This method has a rational basis (which may, of course, be founded upon partially false premises) and, in addition, has the great practical advantage of avoiding parenteral therapy, inconvenient to doctor and patient alike.

The results of treatment of 52 patients complaining of menstrual disorders form the basis of the following report. These cases, treated in the Endocrine and Fertility Clinics at University College Hospital, have been selected solely on the grounds of the treatment having extended over a sufficient length of time and of adequate follow-up. They are conveniently grouped into cases of prolonged and excessive bleeding with irregular cycles (19) and with regular cycles (7); cases of irregular (chiefly scanty and infrequent) and anovular but otherwise regular cycles (13); and cases of secondary amenorrhoea (13). The plan followed consists, first, of a detailed description, along somewhat dogmatic lines, of the methods of treatment that have been adopted, and, secondly, of a critical evaluation of the results achieved. It is my intention to present only what I have myself found to be the case, for which reason no specific references to the results of other workers will be made. In addition to the inherent justification for such a course there is the further fact that, so far as is known, no report of the use of the precise regime considered here has hitherto appeared.

Control of Excessive Uterine Bleeding

Prolonged and excessive uterine bleeding is the most urgent menstrual disorder for which patients seek treatment.