LECTURES ON THE OPERATIVE TREATMENT OF ENLARGEMENT OF THE PROSTATE.

[ABSTRACTED.]

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LECTURE I.

MR. PRESIDENT AND GENTLEMEN,—The question of operation as a means of permanent cure in enlargement of the prostate may be regarded as upon its trial. Portions of the gland have frequently been removed in the performance of lithotomy. You yourself, Mr. President, have done so on two occasions, and fifteen years ago you wrote that though you were not prepared to advocate cystotomy in all cases of chronic cystitis the result of enlarged prostate, you would venture to suggest the expediency of its application in exceptional instances. And but little has been done in other directions. Yet until recently, when the late Mr. McGill published his first cases of suprapubic prostatectomy, no one ventured to uphold it as a measure for serious consideration. Happily in most cases the question need never be raised; no one supposes for an instant that simple enlargement requires operation, but there are certain complications which only too often make their appearance, and which, if they once begin, relentlessly pursue their course until life itself is unendurable, and the patient prays for release; and it is for these that the operation is, if ever, to be undertaken. And, first, they are the direct result of the overgrowth, and are not caused, although they may be helped, by anything else. I admit the weight of authority is against this view. Mr. R. Harrison, for example, holds that the habit of partial retention frequently precedes the physical signs of prostatic enlargement. Sir H. Thompson writes that, in spite of his having travelled considerable distances abroad and elsewhere for the express purpose, he has never been able to find a patient who, having previously been compelled to pass all his urine by catheter—say, for a twelvemonth—is enabled to pass only half by natural effort after division of the prostate; while Professor Guyon maintains that in these cases the whole urinary tract is involved, not the prostate only, and that the disease is merely a local expression of a general atheroma. On the other hand, I maintain that the prostate, so long as it is normal, has nothing to do with micturition; that its overgrowth is a purely local affection; that the complications are the direct result of the obstruction; and that removal of the obstruction will prevent their development.

The Prostate a Purely Sexual Organ, not connected with Micturition.—The first portion of the urethra, as distinguished from the prostate around it, belongs to the bladder; the two are not merely continuous, they are part of the same structure—the allantois—and are absolutely distinct from the rest of the genito-urinary passages. In the monotremata they remain distinct. The penile part of the urethra in these animals never becomes organically united to the rest, or serves, as it does in the males of the higher orders of mammalia, for the transmission of the urine. As with the corresponding organ in the female it retains throughout life its purely sexual character. Even in man this is sometimes seen, when development is arrested; and in those cases of imperforate rectum in which the intestine still opens into the urethra the orifice definitely marks the line of junction between the two parts—the one above formed from the allantois, and the other below developed in the front wall of the cloaca; the one which becomes so often the seat of glandular overgrowth and never of stricture, and the other which is so often strictured and is never invaded by the gland. As Guthrie long since showed, the true sphincter is not at the so-called neck; there is no collection of circular fibres there like a sphincter, the circular coat ceases almost

abruptly, and the longitudinal bands changing their direction sweep round obliquely and are lost in the fibrous tissue on the prostate. The arrangement of the first part of the urethra above the opening of the prostatic utricle is the same in the male as in the female, with three exceptions: one is the presence of the caput gallinaginis, which I take to be the rudimentary representative of the original intromittent organ before the penis was developed; the second is the addition to its distal extremity of the penile part, formed out of an entirely separate structure; and the third the addition to its circumference of a sexual organ—the prostate—and because of the support it gains from this the reduction in thickness and strength of its own proper wall.

The sexual character of the glandular part is unquestioned; it is developed from the lining of the urethra close to the orifices of the Wolffian ducts; it does not attain full growth until sexual maturity; in geldings it wastes away, and in many of the lower animals it varies in size and perfection of development, according to the breeding season. On a small scale the product of its secretion mixed with that from the testes may be compared with what Lataste has called the "bouchon vaginal" in rodents.

The same is true of the stroma. Its origin is from the genital cord, quite separate from the allantois. In structure it is identical and continuous with the tissue of similar origin around the vesiculæ seminales. As Griffiths has shown, it wastes away in geldings, and varies according to the breeding season, just as the glandular part does. Women and children suffer no inconvenience from the want of it; and there is no evidence that after castration micturition is either assisted or unduly prolonged; it is a purely sexual structure.

The Nature of the Enlargement.—This cannot be learnt from museum specimens: it is necessary to begin at the beginning. Age is no cause for it. It does not occur in the majority of old men; it bears no relation to the age they reach, and it often occurs much earlier than is usually believed. The presence of residual urine must not be confounded with enlargement of the gland. I have figured one specimen in which it was well marked at 49 years of age, and I have met with two examples of typical prostatic retention at 48 and 41 respectively. McGill operated on patients whose ages were 55, 53, and 35, and in the last case identified the part removed as prostatic tissue. One of Teale's patients was 54; Meinhardt Schmidt's, 52; Packard's, 43; Belfield's, 49; Dunn's, 45; Iversen's, 36; and Mudd's, of St. Louis, only 27. And in all of these the overgrowth was already some years old.

It is in no way connected with the utricle, which represents the vagina rather than the uterus. It is true there is a superficial resemblance between uterine fibroids and prostatic tumours; but the fact that they can both be shelled out sometimes as from a capsule, and that they consist of apparently similar elements is no proof of the identity of the organs from which they spring.

Nor can it be due to atheroma. Putting aside other reasons, Guyon and Launois appear to have entirely overlooked the primary change. They describe the substitution of fibroid tissue for gland as the dominant feature, whereas it is entirely secondary. In all the cases I have examined, the first change is the invasion of surrounding tissues by a glandular growth distantly resembling that of the prostate, tubular, with occasional acini, but arranged absolutely without order. In the younger part there is but little stroma, merely a few long fibre cells, arranged concentrically around the tubules; when it is older it is much more dense, and the glandular element disappears. The existence of a median lobe is immaterial; the growth spreads up the urethra, at the sides or in the middle, until it projects at the neck of the bladder like a collar or a nipple; from this it may grow back over the trigone, or it may lead to the production of almost isolated irregular tumours. If the glandular part is in excess it grows rapidly and forms a huge adenomatous prostate; if the fibroid change is early and extensive, the enlargement may be small but it is intensely hard. Whichever form it takes it is always local and can be dealt with locally.

The Failure of the Bladder is Secondary to the Overgrowth.—The loss of power cannot be explained away as the result of old age or of atheroma, although these may help. If it could it would be much more common, whereas it is only met with

in a small proportion. Guyon, who holds that it is due to atheroma, relies upon the change the wall of the bladder undergoes. In many of the cases in which it appears to be hypertrophied it is really merely thickened and indurated, but this is due to cystitis, and not to arterial degeneration, or it would not be confined to the bladder. But the best proof is that many of the cases recover when the obstruction is removed; how many I shall discuss later.

It is the direct outcome of the enlargement. If the lateral lobes are thickened without being elongated, the urethra is flattened into a slit, like the trachea in some cases of goitre; the resistance is increased, and the walls become thicker and more rigid. If, however, the growth spreads upwards into the neck, projecting as a collar or nodule, or if the lateral lobes are so elongated that they raise up a fold of mucous membrane between them, the conditions are entirely different. The muscular mechanism for expulsion is thrown out of gear, the wave of contraction which normally spreads over the bladder on to the urethra in the act of micturition is broken, the orifice is closed before the cavity is emptied, a certain amount of urine remains behind, and that which fills the prostatic urethra dribbles away. Then by degrees those muscular fibres whose function it is to draw forward and empty the posterior fundus, being no longer equal to the task, begin to waste, the wall at the back grows thinner and thinner, while meanwhile that of the rest of the bladder may become hypertrophied, and at length a definite pouch is formed. This is the beginning; age, atheroma, cystitis, and persistent catheterism may help, but the prime cause of the loss of power is the overgrowth; without it in the vast majority of instances all the various troubles that follow would never occur.

ON THE ENUCLEATION OF ENLARGED TONSILS, AND ON HÆMORRHAGE FOLLOWING TONSILLOTOMY.

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LIGATURE of either the common or the external carotid artery for hæmorrhage after tonsillotomy is surely a very severe method of treatment, and one which would hardly be resorted to until (other plans having failed) the patient's condition was really critical. In the discussion which took place on Mr. Arbuthnot Lane's paper at a recent meeting of the Clinical Society, and in the two memoranda which have appeared in the *BRITISH MEDICAL JOURNAL*, the only alternative methods of treatment referred to were local pressure and styptics. There is, however, another plan which is surer and safer than either of them, and more in keeping with the surgical methods employed for the arrest of hæmorrhage in other regions, namely, ligature of the bleeding vessel itself in the throat.

Two cases of alarming arterial hæmorrhage after tonsillotomy have recently occurred in my practice, and in both of them the bleeding vessels were tied in the wound with complete success. As both the patients were young and very timid children, chloroform had been given, and it was most fortunate that it had been. The first case occurred at the North-Eastern Hospital for Children. The right tonsil had been enucleated with the finger, and very little bleeding had occurred. The left was excised with Mackenzie's guillotine. The throat at once filled with blood, and continued to do so as quickly as the blood could be sponged away. A sponge fixed on a holder was plugged into the wound between the pillars of the fauces, whence the tonsil had been removed. It was held there for some minutes, but, on quickly removing it, a momentary glimpse was caught of two jets of blood issuing from beneath the anterior and posterior pillars of the fauces respectively, and making a cross fire towards the centre of the throat. The wound was again tightly plugged with a sponge, and preparations were made for securing the bleeding vessels. After the throat had been mopped dry the sponge plug was removed quickly by an assistant, and one of the bleeding points was instantly seized with a pair of Spencer Wells's forceps. The second vessel was picked up in a similar

manner. In all probability the vessels might have been twisted with safety, but it was judged wiser to tie them, because, had torsion failed to check the bleeding, it would have been necessary to pick up the vessels a second time. There was no recurrence of the hæmorrhage, and the patient recovered as rapidly as if no unusual bleeding had occurred.

The second case was encountered in the out-patient department of University College Hospital. There was only one spurting vessel in that case. It was picked up and tied in the manner just described.

In connection with this subject I should like to refer to a method of removing tonsils which appears to me to be but little known and less practised at the present time. I mean the enucleation method. The operation may be done in the following way: The surgeon places the tip of his forefinger between the upper and back part of the tonsil and the posterior pillar of the fauces, tears through the mucous membrane at that spot, and then peels off the tonsil from the wall of the pharynx until it hangs loose in the throat by a short pedicle attached to its lower and anterior part. The pedicle may be either torn through by twisting it or snipped across with a pair of scissors. The operation is often an almost bloodless one.

Although advocating enucleation as a most useful method of removing tonsils in suitable cases, I freely admit that Mackenzie's guillotine and a pair of vulsellum forceps are ideal instruments for performing the operation in the majority of cases. I usually employ them for the purpose, but sometimes they are unsuitable. In some cases the tonsils, though very large and the cause of much obstruction to respiration, are so buried between the pillars of the fauces and so soft and friable that they cannot be drawn through the ring of the guillotine. The crypts are often at the same time very large and plugged with very septic concretions. Such tonsils may be partially destroyed and scarred by burning them with the galvano-cautery, but several sittings are required in order to do this satisfactorily. They may, however, be removed completely at one sitting under chloroform by the enucleation method which I have just described. I have practised this operation on many occasions, and have been very well pleased with it.

Lest I should be told that I am describing an old operation as a new one, I may add that I am aware that the operation of enucleation of tonsils is a very old one, and that it was introduced to the notice of the profession by the Italian surgeon Borelli in 1861.

MIDWIVES IN NEW JERSEY.—A law regulating the practice of midwifery was passed by the Senate and General Assembly of the State of New Jersey on March 28th. This enactment provides that every person practising midwifery in any of its branches must possess a certificate from the State Board of Medical Examiners. Midwives already in practice shall, on complying with certain specified conditions, be allowed to continue to pursue their calling, but all persons hereafter beginning the practice of midwifery must submit to such examinations as the Board of Medical Examiners shall require. Successful candidates will, on payment of 5 dollars, receive a certificate, which must be duly registered by the clerk of the county in which they reside. Licences may be refused to persons guilty of unprofessional or dishonourable conduct, and those already issued may be revoked for like causes, or for neglect to make proper returns of births and all cases of puerperal fever and other contagious diseases occurring in their practice to the various health officers. Any person practising midwifery without first complying with the provisions of the Act shall be guilty of a misdemeanour, punishable by a fine of not less than 10 dollars or more than 50 dollars, or by imprisonment in the county gaol for not less than ten or more than thirty days, or both at the discretion of the court.

ROYAL MEDICAL BENEVOLENT COLLEGE.—At the annual general meeting of the governors held on May 26th, the Earl of Derby was unanimously elected President of the institution; and Dr. Holman, Mr. J. J. Purnell, and Mr. T. K. Walsley were elected Vice-Presidents. Mr. John F. France has presented an additional scholarship at the School of St. Anne's Society, which makes the eighth that he has given to the Council of the institution.