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Remarks

ON

CANCER OF THE PROSTATE AND THE SELECTION OF CASES FOR SUPRA- PUBIC PROSTATECTOMY.

*Delivered at the Medical Graduates' College and Polyclinic,
June 3rd, 1903.*

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I PROPOSE offering you a few remarks on the subject of prostatectomy, and will commence by introducing a case which may be regarded as a typical one. I showed this patient at the Polyclinic a short time after the operation. Sixteen months have now elapsed, during which period he has been actively employed earning his living. Thus you may judge as to the permanent results which we may hope to obtain in well-selected cases after this operation which my colleague, Mr. Freyer, has done so much to promote:

The patient at the time of operation was 67 years of age. He has been under my notice since 1899, when I performed vasectomy for him for enlargement of the prostate. At this time the enlargement had made considerable advance, he was entirely dependent on the catheter, and had been so for some time, and this greatly interfered with his work as a compositor and seriously injured his health by preventing him obtaining sufficient continuous sleep and rest. The case proved too far advanced for vasectomy, and the relief he obtained from this operation was insufficient.

On February 5th, 1902, after examining his prostate and bladder with the cystoscope, I performed suprapubic cystotomy for him and enucleated with my finger the two large lateral masses with the prostatic urethra between them which I am now showing you. The total weight was 5 oz. The patient made an uninterrupted recovery, the function of the bladder has been completely restored, and the use of the catheter discarded since the day the operation was performed.

If the conditions could always be secured as they existed in this instance the operation of prostatectomy would be attended with very little risk, whilst the results would be uniformly good. In the study of the various forms and structures the enlarged prostate presents will be found the key to the application of operative surgery to this part.

The first question I would raise is relative to malignant disease of the prostate—is it common or not, and what should be our attitude to it? My belief is that carcinoma of the prostate is far more common than we have been led to believe. In performing over 100 vasectomies on different persons for enlargement of the prostate, the operation failed to benefit the patient in several instances for the reason that the growth proved to be carcinomatous.

And this leads me to consider how we are to recognize this state and thus to avoid attempting useless prostatectomies. In the early stage there is considerable difficulty in doing this. Carcinoma of the prostate is not infrequently met with in younger persons than in the ordinary forms of prostatic enlargement or adenoma. Cancer of the prostate may occur at or about the age of 50, and in this respect corresponds with carcinoma of the female breast. It is usually associated with considerable lumbar and sciatic pains. Later on it involves more or less of the chain of glands in the groin, including the femoral, which it indurates. Examination by the rectum not only finds the gland of stony hardness but of marked fixidity on pressure. Slight haemorrhages are occasional, but serious alterations in the character of the urine and obstruction to catheterism are often delayed. Loss of

flesh is usually noted. These are the ordinary symptoms of carcinoma of the prostate.

In several instances I have seen, where the diagnosis was verified by microscopical examination, the disease was marked by slow progress and the slowness of the local symptoms that were present throughout. It appeared to prove fatal by the general decay that was induced rather than by any interference it occasioned with the function of micturition, thus contrasting with advancing forms of ordinary prostatic hypertrophy.

On the other hand the adenomatous prostate, which often assumes very considerable dimensions, and is best suited for treatment by prostatectomy, presents very different local conditions. When examined by the finger in the rectum there is a feeling of less fixidity about it relative to the pelvis. The bowel is freely movable over it. Though firm and bossy to the touch it is wanting in that feeling of stony hardness which is so characteristic of the carcinomatous prostate.

Where an operation is contemplated no examination for the purpose of diagnosis can be considered complete without the use of the electric cystoscope. Upon this often turns whether a prostatectomy should be undertaken at all, or whether the case permits of the substitution of a more limited proceeding, as will be illustrated later on. As viewed by the cystoscope the differences between hypertrophy and carcinoma may thus be stated.

Carcinoma of the prostate in by far the greater proportion of cases is of a hard and slow-growing nature, closely resembling scirrhus of the breast both microscopically and to the naked eye. As a rule there is not very much intravesical projection of the prostate in these cases, and what there is is of an uneven and irregular outline. On the other hand the large soft adenomatous prostate presents as a rule a considerable enlargement into the bladder cavity with a smooth rounded surface. The most general arrangement of these adenomatous masses are these:

1. As a collar-like general enlargement of the prostatic ring encircling the prostatic portion of the urethra.
2. As an enlargement of the two lateral lobes, thus squeezing and flattening the urethra from side to side, the greatest diameter of that passage thus becoming vertical.
3. An enlargement of the posterior or middle lobe, either as a sessile, rounded swelling under the mucous membrane of the apex of the trigone, or with a thick pedicle, thus closely resembling a fibro-papilloma in appearance.
4. Or there may be a combination of any or all of the preceding varieties.

It is thus obvious that the cystoscopic appearance of the adenomatous prostate varies very much according to the direction of the growth. Usually the contour can be made out fairly accurately, and the observer can say that he has to deal with a lateral lobe enlargement, a collar-like enlargement with projecting middle lobe, or an enlargement mainly of a pedunculated nature. The importance of this is obvious, for in the last-mentioned case a simple twisting-off of the pedunculated middle lobe would be sufficient to relieve all symptoms, as I shall presently show, and is a much less serious proceeding than removing the whole of the enlarged gland. It should also be noted that the mucous membrane covering the very large adenomatous masses is often of a peculiarly glistening character, and sometimes presents little cyst-like swellings which, when viewed in profile, are semi-translucent. I have not observed this appearance in cases which eventually turned out to be carcinoma.

I am laying considerable stress on the importance of recognizing carcinoma or cancer of the prostate when it is the cause of the enlargement, and distinguishing it from ordinary

hypertrophy or adenoma for the reason that it may be little short of a calamity to submit a person to a prostatectomy should the enlargement eventually turn out to be of a malignant nature without knowing it. Formerly it was not a matter of so much importance when the catheter and the irrigating syringe represented the mechanisms commonly employed in the treatment of prostatic obstruction, for to this extent malignant and non-malignant growths might be treated on almost identical lines. At the present time these conditions are changed, and now that the prostate is approached operatively much on the same principle as the breast and other organs of the body, it is of the first importance that we should recognize beforehand the precise nature of the enlargement we have to deal with.

I have within the last two years performed prostatectomy in two cases which speedily proved to be carcinomatous. I think such cases should not be allowed to pass without notice in relation to the subject I am now dealing with, and I will therefore briefly give some particulars and show what was removed.

CASE I.—The first case was that of a patient, aged 64, whom I saw in 1901. He complained of frequency of micturition both by day and night, and occasionally involuntary dribbling. A catheter had been passed before I saw him, but there was no residual urine. It was therefore clear in this instance that the frequency of micturition was not due to retained urine but to some other cause of irritation. The patient's history pointed to previous attacks of renal colic, for which he had been under treatment at Carlsbad. The last attack of renal colic had been 2½ years before I saw him. He had passed uric acid gravel in the urine, but not stone. Examination by rectum showed the prostate to be extremely hard, particularly at one point, where it gave the sensation as if a stone was impacted there. Further, the patient complained of dull aching about the buttocks and thighs. The muscles were flabby and the patient was losing flesh. He complained much of the frequency of micturition, which disturbed his rest and greatly distressed him both by day and night. As there was no residual urine to draw off the catheter was useless so far as this symptom was concerned.

Later on some difficulty arising out of the increasing size and hardness of the prostate occurred, and the use of the catheter then became necessary. Occasionally a few drops of blood were passed. I was not able at that time to detect any enlarged glands either in the groins or femoral regions. The patient became very anxious about his condition, and having heard of cases where the prostate had been successfully removed he was desirous, other measures failing, of submitting to this operation. I gave it as my opinion that the case was not a favourable one for prostatectomy, as it was not unlikely the growth would recur, and that there could be no guarantee that the whole of the disease was removed at the time of the operation, as is the case with adenomas involving the part. On the other hand, the patient urged the pain and frequency which attended the introduction of the catheter, and the uselessness of all the means that had hitherto been employed to relieve him. I could not absolutely deny the possibility of the growth proving to be one of those densely fibrous prostates which are occasionally met with. But in my judgement the weight of evidence was against this.

However, at the request of the patient an attempt was made to extirpate the gland by the suprapubic route. I felt to some extent justified in doing this for the reason that it was evident no long time could elapse before it would be necessary at all events to open the bladder for the purpose of allowing the urine to escape. The prostatic urethra was rapidly becoming blocked up by the invading growth and catheterism would soon be impossible. Prostatectomy was therefore performed in February, 1902, four months after the patient had been under my observation. The prostatic mass could not be enucleated with the finger, and had to be removed in several portions in this way.

The progress of the case was disappointing. Though the patient received immediate relief by the freedom with which the urine escaped by the open wound and got rid of the distress connected with catheterism practised under great difficulty, the growth within three or four weeks of the operation returned in the original site. It became necessary to fit a permanent drain pipe in the suprapubic opening, which enabled the patient to pass urine painlessly during the remainder of his life. The prostatectomy, however, proved useless, and the patient died from the recurrence of cancer in the part four months after the operation which had been undertaken for its removal. Secondary growth manifested itself in the spine about the ninth and tenth dorsal vertebrae. On microscopical examination the growth proved to be of a mixed character. The periphery of the mass was adenomatous, whilst the centre was carcinomatous. The growth cut like scirrhus of the breast, and yielded typical "cancer juice" on scraping. Mr. Watson Cheyne saw the patient in consultation with me.

CASE II.—The second case was that of a professional man, aged 61, who consulted me in April, 1901, for frequency of micturition. As in the preceding case the use of a catheter indicated that there was no residual urine in the bladder to account for this symptom, and that some other cause for it was to be sought. The prostate was examined per rectum, and it was found to be large and hard. It was noted, however, that the rectum was freely movable over it, and that the growth was not unduly fixed within the pelvis. I did not see the patient again till January, 1902, when the symptoms had become more urgent. The frequency of micturition had greatly increased, and with this a necessity for the use of the catheter.

These symptoms were so urgent that on January 5th suprapubic prostatectomy was performed. What was apparently a fibro-adenoma of the prostate was enucleated with some difficulty in two pieces by the finger. The bladder had evidently for some time been immensely distended. The mouths of the ureteral orifices were so large that they would each admit the tip of the forefinger. The naked-eye appearance of the growth was that of an adenoma which the first microscopical examination confirmed. A further examination, which included a complete section of the mass removed, unmistakably indicated its carcinomatous nature as in the previous case.

Early in April, 1892, this patient sailed for the Cape in a professional capacity, apparently in excellent health, and passing urine quite naturally. About four months after operation he had one or two slight attacks of haematuria, which were evidently connected with recurrence at the original site. He was able, however, to complete two more voyages out and home, when he returned to this country with the abdominal cicatrix and contiguous glands largely involved in carcinoma, and with the scrotum and legs much oedematous. This had all taken place within the course of sixteen months.

During the last few months my attention has been called to several instances of prostatic enlargement which should be included with those I have just mentioned. They are not cases which should be submitted to prostatectomy. At all events, the prospect of recurrence should have full consideration.

But though a deliberate prostatectomy may not be advisable in cases of this kind, there can be no doubt that carcinoma of the prostate often sooner or later leads to conditions where operative interference is called for; I refer more particularly to the effects of obstruction so caused upon the contents of the bladder. A suprapubic opening may give immense relief to the patient whose bladder is distended with clots or foul urine. This is a substitute for a catheter which may be advantageously utilized.

I would like to say a few words in reference to some modern developments relative to the treatment of certain inoperable forms of prostatic obstruction. I refer to those instances where the enlargement is presumably of a cancerous nature. It is a painful thing for a surgeon to say to a patient "I cannot advise the removal of your enlarged prostate for the reason that it is probably malignant." "Is there nothing you can offer?" is probably the rejoinder to this. Within the last few months my attention has been directed to the use of the Roentgen rays and high-frequency currents in some of these inoperable cases of prostatic carcinoma to which I am referring. This is ground upon which I would tread with much caution. My interest was first drawn to this subject by some admirable papers on the use of the *x* rays and the Finzen light in connexion with the treatment of lupus and other semi-malignant forms of ulceration. At the present time I have two cases of malignant disease of the prostate, or what I take to be such, under daily treatment by means of these agencies. In alleviating pain, and in apparently favourably influencing the further development of these growths as judged by the patient's sensations, physical condition, and examination of the part with the finger, I am favourably impressed by what I have seen. The process is a painless one, and will be continued on the ground that it appears to have contributed to the comfort of the patients. It seems impossible that so powerful an agency can be brought in contact even momentarily with living tissues without influencing their nutrition. Whether for good or evil, or for neither, in instances such as these has yet to be determined. I think, however, from what I have seen it is worth a trial; and this it is having.

To revert. I opened these remarks by illustrating what may be regarded as the total enucleation of the contents of the prostatic capsule. I will now consider some cases where partial prostatectomy may be substituted.

If we study a number of specimens of enlarged prostates, we shall find in a certain proportion that the obstruction is occasioned by a limited portion of the gland which has become hypertrophied or excessive. The most common form of this variety is where the floor of the gland becomes pendulous, and by blocking micturition renders the natural escape of urine as impossible as if the orifice of the bladder were commanded by what is known in mechanics as a ball valve. In all other respects these prostates are naturally disposed. Let me illustrate what I mean by a case.

CASE III.—In April, 1899, I saw at the request of Sir Douglas Powell, a gentleman, aged 55, who was suffering from stone in the bladder. I performed litholapaxy upon him, and removed a stone composed of oxalates and phosphates weighing over ½ oz. I should mention that he had been using his catheter for twelve months, and had been absolutely dependent upon it for three weeks before the operation. The patient made a rapid recovery from the operation, though he was never able to dispense with the use of the catheter afterwards.

In August of the same year the operation of litholapaxy had to be repeated, as in this short interval another stone had formed, which was also successfully removed in the same way. On this occasion the stone was formed of phosphates, which is the usual kind in the case of recurrences. Again, he made a speedy recovery so far as the removal of the stone was concerned. The patient, however, still remained dependent on the use of the catheter. By September, 1900, he had formed other stones, which were removed in a like manner. He still remained dependent on the use of the catheter. For the fourth time, in February, 1901, he again applied to me with symptoms of stone. Feeling sure that this rapid recurrence of stone was not due to any fault in the operation or to any want of care on the part of the patient or his medical attendant, before proceeding to remove the stones I examined the patient with the cystoscope. The view thus obtained of the interior of the bladder was extremely interesting. There was no enlargement of the lateral lobes of the prostate, but the third or middle lobe was prolonged, and took the form of a pendulous mass which projected upwards into the bladder, and evidently played the part of a ball valve. Thus the urine was mechanically prevented escaping from the bladder, except when the catheter was used, and being allowed to decompose, the formation of phosphatic stones necessarily followed. I should add that under cover of the projecting lobe of prostate a portion of two calculi were seen by the cystoscope. This condition at once explained how these stones were formed, and I decided upon removing that portion of the prostate which was hypertrophied, as well as the stones it partially concealed. It seemed to me quite unnecessary to remove the entire prostate, and I therefore advised the minor operation.

This was done by opening the membranous portion of the urethra on a grooved staff as if for median lithotomy; this enabled me to pass a pair of forceps into the bladder, with which I seized and twisted off the polypoid excrescence of prostate as you see in the specimen. Subsequently I withdrew two calculi and introduced a temporary perineal drainage tube into the bladder. In a few days the latter was withdrawn, when the wound rapidly closed.

It is now over two years since this operation was done, the patient has had no further recurrence of stone, and what is also of great importance, he has never had occasion to use the catheter since, though he had been dependent upon this instrument for so many years previously.

It was quite clear in this case that the partial enlargement of the prostate which I have described was the direct cause of the recurrence of stone from which this patient suffered for so many years. Further, this case illustrates the great assistance the cystoscope affords in all cases of this kind. It clearly showed how limited the prostatic enlargement was, and how this could be removed by a very simple and safe operation. The days are now passed when the cystoscope was regarded as a toy. Every one who desires to obtain a practical knowledge of the disorders affecting the urinary tract must make himself acquainted with it if he desires to diagnose and treat correctly the disorders of this part.

Partial operations on the prostate must be limited to such conditions as I have just illustrated. They are not to be recommended when the entire organ is more or less involved in a hypertrophy. Two instances have recently come under my attention where no permanent good followed suprapubic cystotomy and the removal of some portions of the enlargement. In one the suprapubic opening never closed, as the urine failed to escape by the natural channel, whilst in the other, though the suprapubic wound healed by the aid of a retained catheter, the patient could never dispense with the latter instrument. In the latter case I advised that an attempt should be made later on to rectify this by a more complete enucleation of the balance of prostate than remained. This I heard was followed by a most satisfactory result, the patient within a month after the revised operation obtaining full voluntary power over the act of micturition, besides other advantages.

There is another point to which I should like to refer in connexion with the subject of entire enucleation of the prostate as now practised.

There can be no doubt that in the large majority of these cases the prostatic urethra is more or less damaged if not entirely removed. This is evident from the examination of specimens after removal. The question has been raised, Is there not some liability to what amounts to a urethral stricture after a wound of this kind? I have met with an instance where there is some evidence of this being the case. The prostate was removed from a gentleman 67 years of age in February, 1902. The urethra was somewhat freely separated on the anterior aspect of the prostate in front of the junction with the membranous portion. The whole canal was no doubt much toughened by the very long dependence on the catheter, and by no less than eight crushing operations for stone which had preceded the prostatectomy. Since the latter operation this patient has had some trouble in passing urine. Sometimes a good stream passed, at others no urine could be voided until after the introduction of a bougie. A good

stream then immediately followed. Apparently there was an obstruction of a valvular nature which thus caused the difficulty in urinating. It could not be called a stricture as after the hitch was overcome just at the entrance to the bladder a No. 14 metal bougie, English gauge, passed easily. Three months after the prostatectomy I passed a urethrotome and divided what seemed to be a fibrous band or bend at the point where the hitch occurred. This completely freed the urethra for all purposes and the patient has since had no further trouble in urinating naturally with a large stream.

A Clinical Lecture

ON A SIXTH SERIES OF CASES OF

TOTAL EXTIRPATION OF THE PROSTATE FOR RADICAL CURE OF ENLARGEMENT OF THAT ORGAN.

Delivered at the Medical Graduates' College and Polyclinic.

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It will be within the recollection of many of you that I first called attention to my new operation in a lecture delivered in this College on June 26th, 1901, and published in the *BRITISH MEDICAL JOURNAL* of July 20th, 1901. In that and subsequent lectures delivered in this College, and published in that *JOURNAL*,¹ I have placed before the profession at large full details of my first 31 cases of this operation, which carried my work on this subject down to the end of 1902. I propose to-day placing before you details of a further series of 14 cases of the operation performed in the present year, the first of which unfortunately died from pneumonia, the remaining 13 being one and all completely successful. Let me in the first instance, however, once more describe the anatomical and pathological features on which my operation is based, as well as the method of carrying it out. (These details have already been published in the *BRITISH MEDICAL JOURNAL*, and need not be repeated here.)

CASE XXXII.

A gentleman, aged 65, seen September 3rd, 1902, with Dr. Kildare Dobbs, of Tutbury, for prostatic symptoms of ten years' standing, and latterly those of stone in the bladder superadded. Catheter employed for four years; complete catheter life for two years. Had had frequent attacks of cystitis, with high fever and great difficulty in passing the catheter at times. Large stone detected on sounding. Prostate greatly enlarged per rectum, bilobed, tense, soft, elastic, and movable. The case was regarded as a suitable one for removal of the prostate, but the patient was in such an extremely feeble condition, with his kidneys probably much affected, that I determined in the first instance to remove the stone, and, if possible, to get him into better health before undertaking this operation.

On September 15th I removed the stone by litholapaxy, a hard urate stone weighing 622 gr. Convalescence was slow and attended by several rises of temperature; but the patient was able to travel home on October 9th. He continued to improve gradually in health, but the difficulty in passing the catheter remained, and he had a severe attack of cystitis early in December.

On January 12th, 1903,² Dr. Dobbs considering him sufficiently strong to undergo the operation, he returned to London, and on January 14th I removed the prostate entire in its capsule, the lobes opening out along their superior commissure and the urethra being left intact. There was some venous bleeding from the suprapubic wound in the bladder necessitating the application of a ligature.

The patient did well for the first three days, but on January 17th lobar pneumonia, involving the lower two-thirds of the right lung, declared itself, and though the wound was quite healthy, he succumbed to this on January 21st. Whether the pneumonia was contracted during the journey to London or was incident to the operation; it is impossible to say.

It was with great diffidence that I undertook the operation in this case, owing to the enfeebled condition of the patient and the diseased state of his kidneys; but his sufferings were so great, particularly owing to the difficulty in introducing the catheter, that I felt bound to give him the only prospect of recovery. The prostate, which weighs 5½ oz., is a fine specimen of symmetrical enlargement of that organ.

CASE XXXIII.

Colonel P., aged 66, consulted me January 8th, 1903, on the advice of Surgeon-General Spencer, C.B. Prostatic symptoms for ten years, gradually getting worse. Catheter employed for 33 years on the advice of London urinary specialist. I passed a *coudée* (No. 8), and drew off 6 oz of residual urine, of fishy odour, containing some pus and albumen. Sounded; no stone present. Prostate moderately enlarged per rectum,