On The Pathology and Treatment of The Enlarged Prostate

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catheter. In order to introduce this instrument, it will be well to bear the above facts in mind; as our chance of success in introducing it will be increased by directing a little to the right or reaching the prostate by the uniform enlargement of the neck of the bladder will be somewhat elevated, thus exaggerating the natural curve of the urethra, and, occasionally, to the extent of an inch or an inch and a half, protruding its normal length. With few exceptions the urethra is narrowed in the transverse diameter, but in some cases which occurred to Sir Benjamin Brodie, a dilated or pouch-like condition of the urethra was found to accompany the hypertrophy. Such a dilated sinus was found in the urethra, when it passed through the centre of an enlarged prostate gland, as was capable of containing two or three ounces of fluid.

Of all the varieties in form presented by the hypertrophied prostate gland, it can be readily understood why its occurrence in the middle should be of most serious import. Behind the internal orifice of the urethra, the enlarged third, like Springs, forming a transverse, flimsy fold, which
extends in the direction of the urethral orifice. This form of enlargement it is
which constitutes a most effectual barrier to the excretion of urine, as it acts as a nat
ural channel of exit from the bladder.
When that viscus is not greatly distended
with urine, and the patient desires its evac
uation, the evacuation comes to press from
behind on the elevated sphyllable tuine whid
it encroaches on its onward course. This
pool then mechanically blocks up the su
ternal urethral aperture in such a way
that no more urine can escape from the
bladder. But when the cavity of the blad
ner has become filled with urine to e-
cape, then the anterior walls are put upon
the stretch, and carried forwards by the
pressure of the accumulating secretion to
a considerable extent, and in this way,a certain amount of the urine is permit-
ted to come away. The quantity thus al
lowed to escape however is limited. If
the bladder is never completely voided of
its contents; from the fact that the par
tial subsidence of the distended walls
of the bladder is an Allows of the enlarged
middle lobe when the pressing of the urine
from behind, overlaying and closing up the

office through which urine leaves the urine is excited from the economy.

In its condition of extreme enlargement, behind this third lobe a deep cavity is formed by the fundus of the bladder, in which calculi, whenever or in what way ever formed, occasionally take up their abode. It is a general observation too that the existence of such a cavity, coincident with the presence of a urinary calculus, is to a certain extent a fortunate circumstance and attended with advantage. For, by the enlarged gland, the stone is prevented from rolling forward on the sensitive neck of the bladder, and thus from producing those distressful sensations which usually accompany the act of micturition in the unhappy sufferer from vesical calculi.

Before taking up the subject of the various symptoms which are caused by the seminal hypertrophy of the prostate, the seeming to be the pro:

fer place to consider what are the causes to which this important affec

ion is with best reason to be ascri:

id. And, as having an intimate

earing on this question, I make no
apology for introducing the following observations excerpt from the work of Sri Everard Home:

"The slow return of the blood from the neck of the bladder, arising from the disadvantageous position of the bladder with respect to the heart, must, in advanced life, have a tendency to dilate them beyond their natural size, and therefore render an accumulation of blood in them more readily produced than in any other parts of the body. This natural circumstance must give a tendency to disease which will be greatly increased by violent horse-exercise, and, I find, that many of the cases which have come under my observation, and those in which the enlargement had taken place in the greatest degree, have been in patients who had indulged to excess in hard riding, at the same time that they were induced by the appetite it produced, to make free with the pleasures of the table. I am now so convinced of the bad effects of these habits on the prostate gland generally, and upon this (meaning the
third) lobe in particular, that I set them down in my own mind as the most common causes of the disease, with which it would not in many of the individuals have taken place. From these exercises having in one case produced a rupture of a vein near the external surface of the middle lobe, there is reason to believe that the morbid increase in size may be the consequence of rupture of some of the smaller vessels in its substance.

In his subsequent observations, Sir Edward then goes on to compare this lesion to that of Apoplexy, both being in this way due to rupture of the walls of bloodvessels and extravasation of their contents, both being most common events which arise in the later stages of life.

In a former page of this essay the views entertained by Sir Benjamin Brodie in regard to the cause of this affection have been laid down, his belief being, that the changes which have occurred in an enlarged prostate are no other cause than those which lead to general bodily decay, that they are not
then truly be classed under the head of diseased actions, but with many other changes to be reckoned as natural in the decline of life. In its tardy rate of progress, from its having, under treatment, been rendered stationary for years, the condition of enlarged prostate has been likened, by the same author, to what occurs in Brancheveel. He also observes, however, that it has no exact resemblance to what we meet with in any other organ.

In regard to its etiology other authorities might be cited who agree in thinking that the enlargement will most be found in those who have given them: relug much to sexual indulgence, or indulgence in the pleasures of the table.

Mr. Henry Thompson, while he admires that it is difficult "to escape the inference that hypertrophy results from venereal excesses," is of opinion that facts do not favor the view, because hypertrophy does not exist when the function is in greatest vigor, and is not called into immediate existence by the most licentious excesses indulged in during the prime of life.
"And," he adds, "when in any part of the body a hypertrophy is developed, it is coincident with or at all events immediately follows the increased action which induced it." He endorses the view of the physiologist that the prostate gland in the male is the homologue of the uterus in the female, and that, in like manner as the latter organ serves to extrude the fully-developed fetus from its cavity by virtue of the muscular tissue which enters into the formation of its walls, so the prostate, from a similar anatomical constitution, has for its function to ejaculate the seminal fluid, and, in the words of Professor Ellis, "to deliver this into the grasp of the voluntary muscular fibres of the constrictor urethrae." That, in the male, the prostate gland is the representative of the female womb, is a well-supported and generally admitted doctrine; and if they be thus in reality homologues, then in the morbid state they exhibit we would expect that some correspondence should also be found. Such a pathological analogy Mr. Thomson has sought and, I think, successfully.
fully to establish, in respect that is, to the morbid condition under consideration.
Fibrous tumors of the uterus in short, and in his view, the correspondent in the female
of prostatic tumors of a similar constitution in the male, and such they are found to be
occurring as hypertrophied prostate.
Both tumors and prostate, he remarks,
are each of them "exceedingly prone to
develop among its constituent elements,
minute, independent or isolated forma-
tions, possessing an organization id-
ential with itself," which forma-
tions, in the majority of cases, do not
increase beyond a certain very limited
size, and do not interfere with the
performance of any known function in
either sex, but which, in exceptional in-
stances, continue to be developed during
a limited period of life life," in the
one case appearing in the form of ut-
erine hypertrophy or tumor, in the
other in that of prostatic hypertrophy
or tumor."

Respecting the causation of the enlar-
gement of the prostate then, the opinion
held by W. Thomson is that it arises
from some necessity of structure, such
as he accords to the uterus when it develops its fibrous tumors. And, this point settled, he concurs to various other causes enumerated by different authors, the power of acting as exciting of the hypertrophy, such as sexual emotion, luxurious food and living, sedentary habit, indulgence in force exercise, etc.

Now that the hypertrophy does not concur, as regards time, with the period of most active reproductive function, it is easily explained by the fact that at the adult period of life, the generative organs, and among these the prostate, are all in a condition of functional health; through the glandular tissue a free and vigorous circulation plays, there is no tending to stagnation in its being, so that to what extent these stimulated to excessive exercise, the gland resists the influence of all exciting causes, and, among these, the excessive functional activity it is made to undergo. But, when the decline of life has arrived, and the function of the prostate as a generative organ, are naturally in abeyance, some predisposing cause appears to be superadded, on account of which the exciting causes of
hypertrophy are enabled to come into play, and manifest their power. And if this I think we may find a more definite cause than is expressed by the term necessity of structure.

It has appeared to me as extrem__

- I probable, that if we avail ourselves of the facts laid down by Sir Everard Home; — and of the pathological analogies, instituted by W. H. Thompson, between the womb and the prostate; — and of the theory as to the fibrous tumours of the uterus which Professor Thompson gives in his Course of Lectures, — we shall be approaching somewhat nearer to a true explanation of the rise and progress of that enlargement which the prostate so frequently undergoes on the advent of life's decline.

With this view, let us bear in mind that Sir Everard Home attaches great importance to the fact that the hypertrophy has often, on examination, been found associated with rupture of vessels in the gland, and that he thinks — there is reason to believe that the morbid increase of size may be the consequence of rupture of some
The Chronic Hyper trophy of the Prostate Gland

The term 'chronic enlargement' is applied to a condition of the prostate gland in which that organ becomes augmented in size; its functional properties, in whole or in part, are more or less increased, and the existence of the condition is declared by a train of symptoms of a very distressing nature. By many who have written on the subject, it may be considered irrefutable as of an inflammatory origin. It was the belief, for example of Verneuil, and other French authors, that before the condition of chronic enlargement was established, the tissues of the organ must have been the seat of an acute inflammation; the measure which was adopted to remedy this inflammation not having proved effectual in completely eradicating the disease, which terminated either spontaneously or by accidental excitement, in the state of chronic enlargement about to be considered. Such opinion however is quite untenable, as the affection occurs in third
of the smaller vessels in its substance.” Mr. Thomson, as already mentioned, believes the uterine and prostate gland to be endowed with some necessity of structure — in both organs the same in kind — whereby they assume a tendency to develop morbid hypertrophy. Now be it observed that in the case of the uterus, the presence of some foreign body growing appears necessary to excite the hypertrophy of its tissue, and fibroid tumors are but an instance of form of its hypertrophy; and, in the case of the prostate, in pursuit of the same analogy, we may presume that the conditions which generate the hypertrophy are the same.

Professor Simpson believes that no cause has yet been found so likely to explain the origin of uterine fibroid tumors as one connected with the monthly excitation of the womb, and the effusion of blood. And it is reasonable to conclude, in accord with the physiology of the organ, that coagula formed somewhere in the wall of its cavity, might constitute a nucleus around which, in concentric layers,
Muscular fibres might be formed, nourished, and multiplied and constitute a fibrous tumour. Around extravasated blood, from some ruptured vessel or vessels of the prostate escaped, and coagulated, might not, in like manner, its muscular fibres be multiplied and grow? In this way the most probable explanation will be reached of the fact that from 35 to 50 in the female, and from 50 to 70 in the male, are the ages at which, respectively, in the first dry fibrous tumour, and in the latter chronic enlargement of the prostate, are known most frequently to arise; and as at these ages tubes effusing of blood are most common in their tissues.

And now the consequences of undue stimulation to the tissues of the prostate may be fully appreciated. A sanguineous clot, the result of that Sitz time likening to extravasating in apoplexy, is sometimes imbedded in the prostate gland; and encouragement of great vascular and nutritive supply to the part (such as is of necessity occasioned by causes like sexual excess and indulgence in horse exercise).
will give rise to both fresh effusion it may be, as well as increase of the prostatic fibres around the clot which the primary rupture had left in its track. Rest and quiet long might have delayed the tumour growth; if, by these means, combined with internal dissolvent and other drugs, the slow and gentle absorption of the effused blood might not even have been gained; but contrary habits promoted its nourishment, and gave it an impulse to become the basis of a tumor formed of prostatic fibres, to whose structure it thus belongs, like that of the uterine, so exceedingly prone to hypertrophic growth, when a growing body is lodged within its tissues.

I shall now proceed to give a sketch of the various symptoms which the chronic hypertrophy gives rise, and on account of which the patients seek relief from the resources of our art. When the enlargement is in its primary stage, the inconvenience experienced is comparatively slight. The first symptoms of its existence which occur are found to be sensations of weight and uneasiness
in the lower part of the pelvis. If the enlarged organ project backwards into the cavity of the lower bowel, it will then in particular interfere with the act of defecation, which is always performed with more or less difficulty and pain. And under these circumstances, the evacuating assume a flattened form. Of the symptoms which arise in the progress of the affection the most important are connected with its influence on the urinary organs, and these are early declared. The patient first notices that, more frequently than is natural to him, he has to go to the call to empty his bladder, and this unpleasant circumstance becomes still more disagreeable, until it has grown at length to be absolutely tormenting. It may be that every quarter of an hour he is constrained to void his urine, and while such symptoms are becoming established painful sensations along the course of the urethra arise and extend, over the perineum and as far as the glans penis—sufficiently distressing in the day time, it may easily conceived that at night the sufferings of the patient will amount to agony. For then, instead of enjoying
The natural period of sleep uninterrupted and unbroken to recruit the body and energise the faculties of the mind, the peculiar nature of his distemper obliges him to get up at all seasons of the night to comply with the unnatural summoning to micturate. This of course is due to the tumor below pressing on the superjacent vesical wall and rendering them mortally sensitive to their natural stimulus to action — the urinarian secretion. The constitutional effects caused by broken rest and by irritation to which but few intermissions are afforded, are very melancholy and distressful. The patient becomes reduced in flesh, his countenance, which, in health, may have been hale and rusty, becomes haggard and wan, and even takes on an expression of great anxiety and suffering. The enlarged gland is the seat of incessant pain; and if the finger be introduced through the rectum, it will feel hot and throbbing. Allowed to proceed unchecked in its course, the symptoms of the affection will all become aggravated in their intensity, and while the cally to evacuate the bladder recur in rapid succession
the power to do so comes to be interferred with, and the ejection of the urine is a difficult and painful process. In endeavoring to void the secretion, the patient assumes a peculiar and characteristic attitude—the body being bent forward, and the limbs widely separated, while he puts forth all his strength, straining every nerve and muscle, to overcome the mechanical bar which blocks up the orifice of the urethra. If the hypertrophy advance still further, there may come to be a stillicidium urinae, the water constantly dribbling away in defiance of voluntary control, and forming, at night, a source of dreadful discomfort. If still the act remain in some measure under the dominion of the will, the water escapes from the urethra, drop by drop, as if no force from behind was exerted in its expulsion at all—when these symptoms are but commencing to manifest themselves, the quality of the urine will be such as belong to a healthy condition of the system. But as the hypertrophy progresses, the secretion becomes opaque and flocculent and acquires an ammoniacal odor; and this
especially when that stage has been reached at which the patient is constantly impelled to make his water or has lost all power over the act. The flocculence is due to the composition of mucous and epithelial cells, which in the portion of urine that persistently occurs in the bladder with so great quantity, which in certain amount come to be excreted with the urine that comes from the patient.

The symptoms of enlarged prostate previous to indicated may culminate in complete retention of urine; and this may be as complete as when the barrier presented to its passage is a stricture of the urethra. Instances are on record of rupture of the walls of the bladder from retention caused by hypertrophied prostate, but happily the mechanism of the obstruction is such as in the great majority of cases to obviate this calamity. So that surgeons in the most extensive practice but rarely meet with these cases, often not even with one. And why it should be so will be apparent from what was stated in previous pages, regarding extreme distension of the bladder under conditions like these. For, as was first pointed out by Descart, the
anterior part of the bladder is then put upon the stretch; by gradual expansion of the posterior parietes and fundus, the tumor is somewhat retracted away from the urethral orifice, so that the latter allows of the exit of a small quantity of urine, sufficient in almost every instance to prevent such a degree of distension as would not be compatible with integrity of the vesical wall. Should the retention be complete however, and rupture not occur, convulsive symptoms will supervene in the ordinary way, unless the urine be let off by some measure of art.

The irritability of the bladder is increased by slight causes; and it is observed by Sir Everard Home that, although the disease may have undergone no abatement, the symptoms may retrograde somewhat in severity, in consequence of increased strength acquired by the muscular coat, and of blunted sensibility of the lining membrane, of the bladder. Most commonly a state of chronic inflammation is induced in it, and the mucous membrane throws off thread-like discharges, which float in the urine. In these circumstances the mucus secreted in the bladder is no longer of a normal type, but as the result of unhealthy
action, is thick, viscid, slimy and very abundant in quantity—collecting especially in the cavity of the bladder. In cases of unchecked enlargement, within this viscid mucous earthy deposits may take place, & when the patient presents himself for advice, he will be laboring under all the symptoms of vesical calculus to which indeed the prostatic hypertrophy has given rise. — In accordance with the law which states that proportionately to the amount of work given them to perform, all muscles undergo increase in size, the muscular fibres of the bladder become hypertrophied, so that in many cases the vesical tumours are found greatly thicker than natural. Then too it may happen that portions of the mucous membrane will project through separated muscular fibres, in the form of pouches or pockets. In these cysts sometimes quantities of pus are found; and in one of Sir B. Brodie's cases, three such pouches had been formed, and in one situated between the bladder and rectum a whole half pint of pus had collected. — There was no ulcerated surface, and it appears that the pus must have been secured by the mucous
membrane of which the cyst was composed.

It is evident then that only from the dis- 
association of this portion, to the impor-
tant function of neighboring parts, does 
the enlarged prostate become the source of 
much trouble and distress. Known benig-

nancy in its nature a tumor may be, still 
if it come to press on adjoining organs and 
impede their functions, it may do as effect-
ually as any structure of a truly malig-
nant type.

At times, the cyst, an inflammatory ac-
tion is set up in the enlarged prostate, 
which terminates in suppuration. It is 
said generally to take place in the ex-
creting ducts, and that in this way 
may be explained the frequent existence 
of mucous purulent collections of matter. 
Occasionally, however, the inflammation 
invades the fibrous envelope. If on 
the other of these ways, the abscess seeks 
its discharge its contents through the blad-
er, urethra, lower bowel or skin. If 
these have been evacuated into the blad-
er, the result may be an ulcer in the 
place where it has formed, and this 
may be the source of slight discharge of 
blood. The hemorrhage usually is not
who never, at any previous period of their lives, complained of symptoms referable to the prostate; and the occurrence of enlarged prostate in those who may once have been the subject of acute prostatitis must merely be considered as an accidental coincidence. The anatomy of the hypertrophied gland contradicts the view also, as no remain of by one inflammable can be detected, such as we find to be the result of it in other parts.

It is the belief of Sir Benjamin Brodie that scarcely more certain symptoms of body decay and the advent of old age, are the appearance of the anus vermis round the cornea, spots of earthy deposit in the tunic of the arteries, the grizzling of the locks, and the stapping of the frame, than to this chronic enlargement of the prostate gland. In this opinion however all authors do not agree with him, for Mr. Coulson thinks "it is erroneous to suppose that, in a state of health, the prostate becomes enlarged with advancing years. On the contrary if no morbid change is going on, the prostate gland like other organs of the body, decreases in
swelling but in some cases has occurred to an alarming extent. Bleeding from the prostate does not always depend on ulceration however, for like other tumors that of prostatic hypertrophy is liable to bleed. In another way too the enlarged prostate may be made the source of danger winous discharge, viz. by causing laceration of its tissue in the introduction of instruments. This may usually be avoided by employing caution in passing these, but not always. For in some cases, so susceptible of lesion is the tissue of the gland, that slight harm almost uniformly attends the introduction of the catheter.

The commonest complication in cases of enlarged prostate has already been adverted to viz. chronic inflammation of the bladder. But in other part from reflected irritation vascular excitation may arise, and this is often found to be the case with the seminal vesicles. The walls of these become from chronic inflammation, thickened and indurated, forming adhering, and coming to the bladder, with neighboring organs. Sympathetic irritation may be excited in
the kidney. This condition of things will reveal itself by increase of the urinary secretion. It is of a pale straw color, yet in its secreting gland is no organic disease, the undue quantity being the result of new evaporation of function due to diastaltic irritation of the ganglionic nervous sys
tem, or at least that portion of it which ramping in the kidney.

In other cases, where during life, the catheter could draw off little or no urine, the vesical extremities of the muscles have been found pressed upon and blocked up by the tumor, and the urine was in conse-
quence prevented from reaching the blad-

In such instances the muscles are discovered to be enormously dilated, if the accumulated excretion produces like effects on the pelvis, calices, and tubuli
minipari of the kidney. All these ducts coming thus to be filled with the unex-
ected product as much as it is pro-

ible for them to contain, and this exerting pressure on the tissues of the
kidney, then the latter organ is no
longer fit to separate from the blood
the matters borne to it for elimination.
Thus circulate through the vessels of
The entire system, reach and poison the brain, terminating its all important functions, and, as a consequence all the other functions of life. The diseased kidney may present quite a healthy structure, and, up to the time when its ducts became mechanically obstructed, may have been discharging its functions perfectly well; all the fatal results having been due to the blocking up of the natural avenue of excretion, and the consequent retention of waste materials in the economy.

Again, when we consider that the mucous membrane of the bladder is continuing with that of the secreting tubes of the kidney, it will not surprise us that to the latter organ the medical chronic inflammation sometimes extend. Having become established here, the glandular capsule becomes strongly adherent to the cortical substance; while, in course of time, the expanded products obliterate the minute tubules, compress the smaller vessels, in this way reducing the size, and increasing the natural firmness and compactness of the kidney. In the early stage the amount of urine is increased, but as the inflammation advances,
and grow more chronic, and especially as the inflammatory products come to conduce and infiltrate the tissue of the kidney, a smaller quantity of urine than natural will be passed, while in it albumen, blood, dyes, and other abnormal constituents may be detected by proper means. And from this chronic malady the patient may perish. It becomes afflicted with obscure lumbar pains, and over the pubes in front of the abdomen painful feelings arise and extend. One of the testicles may become the seat of inflammation. In course of time the diseased action spreads itself over the constitution. There is a disinclination to former pursuits and subjects of interest, and to all kinds of exercise, mental or bodily. Feelings of languor, nausea and indigestion, occasional attacks of chilliness in the hands and feet, a brown fur on the tongue, advancing debility, and emaciation, a deeper and darker shade of anxiety on the countenance, the recurrence of rigors—these are the last and the most prominent of the symptoms experienced or manifested by the unhappy patient, before death arrives and carries him away.
Treatment of Enlarged Prostate.

The chronic hypertrophy of the prostate gland being so frequent an accompaniment of the other indications of the decline of life, as by high authority to be reckoned a natural change, - the fact that over its origin medical art possesses but little control will not be so calculated to excite our surprise. And when at this period the gland has become the seat of the senile enlargement, no certain means have yet been placed at our disposal by whose employment the organ may be reduced to the pristine proportions of adult age.

Why, under these circumstances, a daily routine of life which is free from all source of excitement, why at posture which promotes venous return from the tissues of the prostate gland, why a diet destitute of all stimulating ingredients, and an avoidance of all mental disturbance - should act most beneficially on an hypertrophied prostate will be easily understood from a reference to its pathology. Although however we do not possess the power of bringing back the lobes of the prostate.
to their original site, and, in their view, who look upon the enlargement as a normal change, must ever so remain, still if the affection be brought before our notice in time, and before the extreme stage of the hypertrophy have been attained, its progress to this stage may be greatly retarded, if not completely arrested, the patient may be saved a great deal of misery and be made to pass the remainder of his days in comparative security and comfort. With a view to this most desirable end however, it will be readily comprehended why a compliance on the part of the patient with the practitioner's plan for his relief will be absolutely necessary, why he should scrupulously observe those habits which he finds most consistent with his comfort, adopt the diet best suited to the nature of his complaint, resort to the occasional use of such rem

lay and medicines as mildly operate on the alimentary canal, and be very frequently in the horizontal posture. It happens not rarely that a state of mental depression accompanies this affection, and as this operates injuriously to patient
should have his mind diverted by mixing occasionally in social and cheerful society, and an indulgence in conversation short of what is calculated to be the cause of agitation or alarm. When he goes abroad in the open air, he will be careful during what kind of weather, and as to what sort of exercise he will use. If it is to be walking, he must not to protract his walks, as it matters them tiresome or fatiguing. If he has formerly been addicted to riding on horseback, he must be told of the injurious consequences of this kind of exercise, and how all experience proves that it is a pestilential cause of the disease under which he laboring, and how much it is liable to aggravate it when the disease has begun. When he does go abroad, he will prefer some vehicle in which his body will not be subjected to concussion, and which will carry him smoothly along.

When a plethora of the system is coexistent with hypertrophied prostate, general bleeding is sometimes had recourse to, it cannot be supposed with a view to its reduction, but as a constitutional measure to prevent its further
development. But with nearly all cases of this kind no such athenic condition of the system is found to concur as to warrant venesection; it is generally found like one which is not at all suitable for this servile measure, from the effects of advanced age and a failure of constitutional power. If venesection is seldom called for, far less by the administration of mercuric bichior, the thought of as a proper agent in the treatment. Whatever it claims as a desipriment may be in other tumors, it certainly could not bring about the abatement of the prostate growth, and in the old and debilitated subject of this affection its influence could not be otherwise than hurtful.

Among the other drugs proposed to reduce the enlargement, Mr. Coulson thinks he has seen some benefit arise in this way from the employment of hemlock. The reputation which this substance has acquired in the discussion of tumors of the sympathetic and mammary glands is very questionable, and there is even for this reason to believe that in the condition under consideration it can produce any such effect. Our caution in assigning it
This virtue will be increased when we consider that Mr. Coates exhibited it in union with Jodide of Potassium to whose agency, and not to that of the Hemlock, most probably were due the good results observed in those cases where improvement followed their combined administration. Even from the Jodide of Potassium, however, Dr. Benjamin Brodie never obtained any good effects, notwithstanding the high commendation it has received from Mr. Stafford, who administered it internally and also applied it in the form of weak ointment as a suppository. Most of this author's cases however were not of seminal enlargement at all, while in the others the good effects were far too indiscriminately ascribed to the action of the Jodine. The Jodide of Potassium, if good results are hoped for from its use, should be given in doses of four grains daily. Carlson observes that if this plan of treatment by Jodine protect the patient from further advancement of the hypertrophy, he may consider himself fortunate; while Mr. Thomas regards it as an encouraging fact that Jodine exerts an undoubted influence over the uterine tumours between which and those of the prostate the
An analogy has already been pointed out. Reasoning from this analogy he believes a patient with enlarged prostate would do well to resort to the Freunbach Springs of Rhineh Germany, whether patient with uterine tumors. He went to repair for the purpose of giving a trial to the deodorant virtues of the waters. Such virtues they possess for reason of the quantities of Iode and Bromine they hold in solution ; but if from these springs, on account of the small quantities of these disquieting remedies they contain, any benefit is anticipated, we will be much more likely to attain the end desired, as remarked by Professor Simpson, if the methodic exhibition of these substances in which their properties depend. And if in addition to the pathological analogies they present, uterine tumors and tumors of the prostate exhibit that also of occasionally, of being occasionally made to assert under the disquieting exciting of any internal remedy, that from which experience teaches, mostly the by injected at present, to the Bromide of Potassium, in doses of gr. iv three times a day.

An important item in the management
size." Still, if what happens in the great majority of men when old age has arrived and concomitant failure of the bodily powers, cannot be considered as a deviation from the normal course of nature, then it would appear from the remarks of Sir Benjamin Brodie, that an enlarged prostate, at a late period of life, can scarcely be regarded as a mortal development. For, called upon, in the exercise of our art, to treat the varying inconvenient symptoms to which this condition gives rise, it results, from this view of its nature, that in doing this we are combating no true disease, but seeking merely to ameliorate the failing state of Nature. In a succeeding portion of this essay it is my intention to treat of the cause to which this enlargement of the prostate is most probably due.

Although so frequent an accompaniment of the other signs of old age, the hypertrophy does not by any means take place to the same extent in all. In its manner of enlargement too, in different individuals it is subject to variety. In the majority of cases in which the prostate has been examined after
of all these cases is to ensure a due regulation of the state of bowels, which, if suffer to remain in a constipated condition, would manifestly contribute greatly to produce mechanical congestion of the prostatic veins. The medicines employed to obviate this how ever must not be chosen at random, all of a drastic and purging character being avoided, such as colocynth, aloes, elaterium, and a preference given to those which are mild, tho’ certain in their action, such as confection of senna, cream of tartar and sulphur. To clear out that portion of the bowels most likely by its proximity to affect the condition of the prostatic gland does not always suffice necessarily the internal administration of cathartic medicine, and this may in very many cases be usefully superseded by the injection of laxative enema into the rectum.

The food on which the patient lives should be of a simple plain and non-stimulating description. All substances, which tend to derange the function of the stomach, which excite or accelerate the circulation of the blood — and
therefore in great measure the use of alcoholic drinks—must be sedulously avoided, and strictly prohibited. The patient should be kept warmly clothed, and on no account expose himself to atmospheric vicissitudes, the evil influences of cold and moisture. And the secretions of the skin may be promoted with advantage by the occasional use of the warm bath, and this often repeated to the feet will be attended with excellent results, as imparting increased vigor to the circulation there as in some degree to lessen the tendency to local congestion which exists in other parts.

Of local measures put in force in the treatment of Chronic Enlargement of the prostate gland, a common one, when the nature of the affection was imperfectly understood, and when it was regarded erroneously as of inflammatory origin, used to be the employment of counterirritation. If it is thought necessary to resort to this treatment which in some cases the rarely it may be and only when there is extreme tendency to inflammatory symptoms, we would
expect issues and setting in the region of the perineum to be of more service than blisters over the pubes; and this is ratified by experience. The chronic cystitis, which is so common and so distressing a complication of enlarged prostate, is sometimes well treated by this plan of counter-irritation. But the chronic inflammation of the bladder arising in this way, unless very severe, is better treated by other means. And among these the injection of warm water into the cavity of the bladder with a view to wash out the viscid mucus by means of the double-current catheter, the use of the warm hip-bath, may be mentioned as of great service. Internally we advise the liberal use of diluent drinks, and administer the medicines which enjoy the reputation of diminishing the secretion of pyo- or mucus, whereas the secretion of phosphoric mucus received high commendation from Sir A. Brodie, while the japa prae, seems to answer the purpose better with the greater number of practitioners, and has succeeded in affording relief in cases where both Pareia and Buchu had been tried and found ineffectual. The mineral acids in this
cases must be regarded as our most useful remedies, and of these I believe I had the opportunity of witnessing the good effects in a case of chronic cystitis in connection with Dispensary practice this winter. Urgency of the bladder requires not unfrequently the application of opium suppositories. When much spasmodic action is present, it may be useful to combine the actions of opium and Belladonna. For this purpose of the extract of Belladonna, 1/2 gr. may be added to 1/4 gr. of the extract of opium and placed within the sphincter ani. At the same time morphia may be administered internally, and when from idiosyncrasy it is contra-indicated, other sedatives as Cannabis in the extract of Hop must be tried in its stead.

Another complication of this chronic affection sometimes demanding special treatment is hemorrhage from the bladder. The discharge of blood takes place from the surface of the prostate, which has become ulcerated, is bleeding spontaneously, or has suffered laceration of its tissue from the incanting introduction of instruments. Yet not necessary incu-
tung, for sometimes, as previously remarked, although the catheter may have been introduced with the utmost circumspection, and dexterity, slight hemorrhage constantly occur. In few of all the cases does the hemorrhage prove serious or severe, and, when very inconsiderable, will require of more than common care in introducing the catheter, or perhaps the employment of one somewhat smaller in size. In the exceptional cases however the hemorrhage cannot thus be avoided. But sometimes the bleeding is such an extent as to affect the patient's constitution, and demand more active remedial efforts. With the fear Gallic acid in doses of 5 to 10 gr. & may be given three daily; or the acetate of Lead and opium; or tincture in doses of the & mxx, suspended in mucilage and frequently repeated; or some other reputed styptic.

In other the rare cases, the bleeding occurs too alarming an extent as completely to fill up the cavity of the bladder, and in these cases, when the blood has coagulated, the bladder may be felt above the pubes in hardnes much resembed the pregnant woman.
...ther or not at once to interfere in these instances and remove the clot. There is some difference of opinion. But good reason can be given why we should remain as long as possible from introducing an instrument with the intention of breaking up the clotted mass and then with drawing it by means of a syringe; inasmuch as, under this treatment, there arises what we would very decidedly expect, an exceeding liability to recurrence of the hemorrhage. The lesser practice under these circumstances, is to trust as long as possible to the effects of nature and the solvent properties of the urine on the clot, which becomes gradually dissolved as the urine enters the bladder; whilst the agitating desire experienced by the patient to empty his bladder while the great coagulum occupies its cavity, should be met bymorphia by mouth or rectum, by which powerful agent spasm, if it exist, will be alleviated, and painful sensations allayed.

Altho' I cannot in this place enter at length into a description of a plan of treatment which has been proposed and practiced in various ways to procure absorption...
of the redundant tissue of an hypertro-
phous prostate, the plan namely of com-
pression, it would be improper to pass
it over without notice in the pages of
such an essay as this. Considering the
often valuable results which accrue
from the application of this agent, thi-
alyzed with a like purpose in the treat-
mint of tumors in other parts of the
body, we might be led to anticipate
good results from its adoption here—
But in nearly all other parts, tumors are
more amenable to this form of treatment
from the facility with which, in their
case compressing means may be applied.
Continuing pressure in this situation is
manifestly impossible, although it does not
appear that the instruments contrived to
bestow some degree of compression on the ex-
larged gland have any tendency to augment
its proportions.
French surgeons have exercised their su-
periority in inventing instruments for the
purposes of compression, but the result
has been the production of such applian-
ces only as, from their complicated me-
chanism, are totally unsuited for prac-
tical ends. The instrument from whose
employment I would anticipate most benefit to that which has been invented by W. Henry Thompson, who has devoted so much attention to the whole subject of disease of the prostate gland. In the way of expanding the prostatic urethra, however, more advantage will be gained than from any former process, by a desire to relieve the glandular enlargement. He follows in his own words a description of his apparatus:

"It consists of an ordinary metallic catheter, which may be of any form or size required, with a stop-cock at the handle, and a syringe containing air or water which fits accurately to the mouth of the catheter. A tube of prepared india-rubber, measuring about 5 or 6 inches in length, is closely drawn over the entire instrument, and fastened by a thread of silk close to the handle. On applying the syringe previously filled with water, and making pressure, the fluid passes through the eyes of the catheter, the lower 3 inches of the india-rubber tube become very gradually distended, equally in every direction, until the diameter reaches to the half, or three-quarters of an inch, or even to almost double this point, if required. Water is a better agent than air for the purpose, it is preferable to any other fluid as being perfectly clean and
easily removed afterwards. The entire diameter of the instrument, in any of its parts before expansion does not exceed No. 9 or 10 of the ordinary scale, — the form of the expanded portion, is, in some degree, that of a spindle, when considerable distending force is employed; the maximum of diameter being at the centre, the size gradually diminishing before and behind. The expanded portion may be made either more spheroidal or more oblong in form by a very slight adjustment of the tube. The more tightly this is drawn over the catheter the longer will be the expanded portion, and vice versa."

The proper application of this very simple and ingenious instrument consists in, first of all, withdrawing by means of a common catheter, the urine from the bladder, not so much with the special intention of emptying that cavity as for the purpose of taking accurate measurement of the length of the urethra. This last point being precisely determined we then have to measure off on the dilating instrument so many inches into more as correspond to that canal, and that are in a position to introduce it as far as may be desirable along the prostatic portion of the urethra.
The contents of the syringe should then be injected. It may here be observed too, the maximum degree of pressure to be used will be obtained by emptying one full syringe although at first trials this should not be done. The water should be at the temperature of 99° or 100°. The operation is rarely attended with much uneasiness, although by the degree of this last which the patient comes to experience will be the length of time during which the instrument is permitted to remain exciting its compressing and expanding power. From 1 to 5 minutes is the proper period of time, and if it is suffered to remain longer no advantage is said to be derived.

By the examination of the patient in like manner we are to be guided in considering how frequent should be the introduction of the instrument. If the patient can endure it so often, as once a day, the frequency of this repetition should not be exceeded as it is not found to be attended with beneficial results. In first attempts caution should be used, and as a part of this the hot tine bath to allay the unaccustomed irritation which the instrument sets up in the parts.

However slight may be the compression exercised on the prostate (and I am inclined to think...
death, it has been found no more than 2 or 3 times the natural dimensions, while, having reached the extreme stage of enlargement, in some cases it has been found fifteen times the natural proportions. The enlargement too may have taken place in a perfectly uniform manner, the gland preserving in all its parts the peculiar chestnut configuration, and in all of them pretty equally augmented in size. Under these circumstances, on examining the interior of the bladder with the prostate in situ, no irregularity will be perceived, but an uniform rounded prominence projecting upwards behind the vesical orifice of the urethra. This uniform increase in bulk of the several lobes of the gland if, however, of rare occurrence, contracted with the great frequency of its irregular enlargement, when no equalizable bulging will be met with, but when the lateral lobes of the prostate extend outwards beyond the vesiculae seminale in front of the rectum.

By that eminent author, Sir Edward Jenner, the prostate gland is described as possessing a third or middle lobe. In
that it causes no absorption of its team whatever) no doubt it operates powerfully in rendering more patent the contracted neck of the bladder, or more pervious the prostatic part of the urethra. After 3 or 4 applications the patient will probably observe a notable improvement in the stream of water, and if he has been habitually retaining it will very likely find the residue urine diminishing.

The principal means whereby the art of surgery is competent to afford relief to the patient with enlarged prostate consists in the employment of the catheter. And when he presents himself laboring under complete retention of urine to its timely introduction in many, in very many cases, will be due the further prolongation of his life. A few instances do indeed occur when both retention of urine and enlargement of the prostate have been so rapidly developed and in which bleeding from the liron has been sufficient to procure evacuation of the contents of the bladder, without using the catheter. But in the ordinary cases of chronic enlargement, where a mechanical barrier exists such as completely or at least completely prevents the excretion of
wine, the surgeon's mind turns instinctively to the catheter as a complete source of relief. The instances in which it proves otherwise are comparatively rare. The instrument should not be less in size than No. 9 or 10, it should be from 12 to 14 inches long, and the curved portion that consists of one third or one quarter of a circle whose diameter if complete would measure from 4 1/2 to 5 inches. Of the 2 kinds of catheter, the silver and gum elastic, either may be used with equal advantage in cases of this nature. The latter is however perhaps the preferable, as it alone may be allowed to remain in the bladder; and that it should to remain is very much to be desired, especially if much difficulty have been encountered in its first introduction. The gum catheter may be a flexible or an inflexible instrument; in the latter case being mounted on an iron stilet, but having none in the former.

The necessity for its having a considerable curvature will be at once perceived from a consideration of the nature of the obstruction it has to encounter at the neck of the bladder. If the curve were only slight, it would come directly against
the prostatic tumor, but this is provided against by the increased curvature which is given to catheters made specially for these cases, and by which the instrument is made to avoid the tumor and come forward in the direction of the pubes. The passage of the instrument into the bladder should be lightly performed, and not effected with any degree of firmness, force or determination. For if it be rushed into, it may tear the parts against which it is directed, and set up in them inflammatory action which will terminate in abscesses.

It comes to be a question whether or not when the catheter has been got safely successively into the bladder and satisfactorily brought the retained secretion away, it should then be at once removed or suffered to remain. Experience is in favor of the last mentioned practice. For if, in fact, the instrument be at once withdrawn, this primary removal of the vesical contents is found to be of but partial service. Whether it is that the recumbent structure of the kidney relieved from the pressure cools, while retention lasted, the urine had been exuding on it, resumes its function again with increased
activity and vigor, or whether it is that
urine which had accumulated there come
down from the duct of the kidney, — I
am unable to say, yet certain it is that
in a few hours after removal of the cath-
izer, its introduction again will be imper-
atively demanded, from the distension
of the urinary bladder having become as
extreme as before. And if the instrument
have thus been withdrawn, and its reintro-
duction become a matter of necessity,
the operation will be best easily performed
the second time, from the effects of its
previous entrance, which may have been ir-
ritating, not having passed away. Evident-
ly, therefore, if we can save the patient the
first disturbance, by retaining the instru-
ment in his urethra, it will be the proper
course to pursue. And the best means for
its retention will be found in the employ-
ment of a "T"-bandage. A bag in the
orifice of the catheter will enable the pa-
ient to make water whenever he feels
inclined. In this position it should be kept
for some days and then removed. In some
cases the effect will be such that the nat-
ural power is restored and the use of the
catheter no longer needed; but in others
Its occasional introduction will be daily required.

But difficulties not uncommon arise in the operation of introducing the catheter, which it requires great dexterity to overcome. Among these is a liability to paramoeric action in the membranous part of the urethra and much irritability—the consequence very often of much force having been used in introducing the catheter. This is a difficulty which can be best met by first of all passing the gum elastic catheter without the stilet. The soft texture of this instrument is not resisted by the irritable part of the canal. It will pass onwards as far as the prostatic tumor, if used alone, and stop there. Without removing the catheter, the stilet should now be introduced which will complete the procæ by causing the catheter to surmount the impediment presented by the elevated pro-

state.

If it be found difficult to set the end of the instrument carried over the prostatic tumor, Mr. Key's manoeuvre may be practiced after with advantage; that is, if the catheter mounted on its stilet, have reached the protuberant gland, let the stilet be
withdrawn to the extent of one inch. The probable effect of this will be that, by
the increase of curvature thus given to the cathether, the latter instrument may
be enabled to ride over the tumor which obstructs its course.
But notwithstanding all the artifices that have been devised, it is found, the rarely,
quite impossible to get the cathether over the mechanical bar at the vesical neck. And
under these circumstances the practice called for is to force the point of a metallic in-
strument through the substance of the pro-
jecting prostate, and, by bringing it out on
the posterior aspect of the tumor, draw
off the urine in the usual way. In many
hands this mode of transfusion has an-
swered very well, for some patients within
it has been practiced with success so well
of time were able to eject the cathether, 
empting their bladder in the natural way.
These means having been tried and found
unavailing however, the issue of the case
comes to lie now between certain death and
puncture of the bladder.
The puncture into the cavity of the bladder
may be made at varying times. Urethra is
indicated by the extreme state of salage-
Ment attained by the prostate the operation is best performed by the rectum. It may appear a harsh measure when the gland is considerably hypertrophied, they to make a passage through its structure, but as Prof. Syme remarks in his principle, "if it be recollected that the catheter may always be passed in cases of obstruc-
tion dependent upon enlargement of the prostate, unless the surface of the tortu-
ous canal be protracted and torn by the possi-
ble use of instruments, and that in this case, the substance of the gland is already
injured nearly as much as it could be by
having the catheter thrust through it,
the operation will not seem quite unatall." To reach the bladder in this way a curved
prococ should be introduced through the
rectum, along a groove formed by the four
and middle fingers of the left hand, as
far as the trigonal space; through the
part corresponding to which it should
be pushed directly forward into the
fundi of the bladder. The trocar shou-
then be removed and the cannula sus-
ied to remain for a certain length of time,
until whatever the urine has been made to
leave the body by its natural excretory channel; when of course the whole apparatus may be dispersed with.

In preference to the supra-pubic puncture, the above operation should always be chosen whenever it is practicable. For of all the modes of reaching the bladder, that by making a puncture over the pubis is most fraught with dangerous consequences. But from the excessive size of the prostate however, the safer operation is not within our power, it will be necessary to resort however reluctantly, to that which is performed over the os pubis — and indeed in cases of this kind it is from this spot that the puncture is commonly directed.

In the middle line of the body an incision should be made about an inch and a half in extent, having its inferior by the ischium at the symphysis pubis. Let a separation, by means of the knife and fingers, be now effected between the two recti and the two pyramidal muscles of either side, so as to reach the tunics of the distended viscera. A long and straight trocar should be then thrust
into the cavity of the bladder, in a direction obliquely backward, in order to avoid transecting the neck. Extreme care must be used with the view of averting, arresting, or preventing infiltration. The cannula should therefore be retained for some length of time — for the space of at least twenty-four hours — and when it is thought proper to remove it, it should be replaced by a gum elastic catheter, an instrument through which the urine will continue to flow away, and which is far less apt than the instrument of silver to excite irritation in the bladder or urethra. As the result of prostatic enlargement, a morbid degree of irritability already exists. Ropy mucus must not be permitted to collect within and so block up the channel of the catheter, and though this the stream of urine must be encouraged to flow by causing the patient to lie on one side.

Of the two operations above described either is almost invariably chosen in cases where the urine has been retained from enlargement of the prostate, and seated, by causing its gentle introduction, or
or its forcible transfixion of the resisting prostate, the operator has failed to lodge the catheter within the vesical cavity in such a manner as to draw off its accumulated contents.

I may here add, however, that another operation has been proposed and practiced in cases of this character, and in some, it is said, successfully—viz. by making the puncture of the bladder through the symphysis pubis. Regarding this procedure, however, beyond this passing notice, I have nothing further to say.

In a few cases wherein none of the operations heretofore indicated became at all necessary, it has been found that the introduction of the catheter will prove sufficient for the evacuation of the urinary bladder, our immediate adoption of this simple plan of relief would be highly dangerous, and might result in a fatal issue. Such an all too rare case wherein the patient has for a long period of time, it may be for a few years, been suffered to walk about with an enlarged prostate, and in whom the use of the catheter has been
The healthy state it is difficult to detect traces of such a structure, but when the gland has become the seat of chronic hypertrophy, this lobe often shows its independent existence by becoming very distinctly developed. In this part of it occurring too, the enlargement is not only very frequent, but very characteristic in appearance. When it has not become of excessive size in this locality, the tumour is of the form of a cone, whose apex projects upwards, carrying before it the vesical wall, and standing in relief on the inner surface of the bladder. But when it has grown to much greater proportions, the parts of the conical eminence will have changed places, for then by its base it will project into the vesical cavity, while the narrower peduncular portion is merged in the mucous tissue below. Occasionally, too, if closely inspected from the interior, another tumour may be perceived springing up, constituted of one or other of the lateral lobes.

From the feeling of extreme hardness, which, in the great majority of cases, the enlarged gland imparts to the fingers, it
utterly neglected. As a result of this unhappy neglect the amount of urine which comes to abide permanently in the bladder becomes greatly augmented, and the diseased action exciting there will be found in these cases to have extended to the tissue of the kidney. In parting of this clasp the removal of the urine accumulated within the bladder, as soon as they present themselves, will be followed, as in patients more fortunately circumstanced, by grateful sensations of relief. But if this be done, and if the urine be drawn off three or four times in the course of a day, the first pleasant feelings of freedom from long-sustaining distress will be found to have been fallacious, or at all events they will prove but the prelude to symptoms of a more formidable nature of a more fatal tendency. The symptoms of renal disease formerly were so slight and obscure, become more decided, declared; his mental avocations and pastimes are treated of the patient with indifference, he becomes the subject of anxiety and
languor, and he gradually sinks to die.
In treating this case of this kind it will be at once seen how much circum-
section and care become necessary on the part of the Surgeon. At all
once and suddenly the water
be drawn off from the distended blad-
er, nor its long, accustomed pressure
on the secretory tissues of the kidney, all
at once or suddenly removed—but
cautiously and by slow degrees, by suf-
ferring a few days to pass away before
we make the evacuation complete. By
sustaining in the interim his constitu-
tional health with tonic, stimulant
and nutrient remedies, the patient is
generally enabled to rally, and regain
some, if not all, of his original vigor, and fi-
ally to fulfill all the indications of that
regimen which has been found most
conducive to the comfort of the pa-
tient with enlarged prostate.

(N. Gray Mercer)
might be mistaken for a scirrhous growth. And scirrhus indeed the condi-
tion has sometimes been erroneously de-
nominated, at this between it and the
carcinomatous tumors the only point of
likeness to be found is in the extreme
hardness of their texture. It possesses
therefore no malignant tendency, and is
stated by Professor Syme to resemble not
closely in nature the simple vascular sar-
coma. The tumor may be felt extend-
ing down to the rectum, and upward
in the direction of the symphysis pu-
ribis. And in some cases, when the bod-
ying of the patients are reduced to an ex-
reme degree of emaciation, if the hand
be pressed firmly on the abdominal wall
of the hypogastrium, it will come to
impinge against the prostatic tumor,
which they can be easily and distinctly
perceived. Extreme hardness is in most
instances characteristic of the tumor, and
the hardness is sometimes as great as
that of cartilage, while less frequently
it approaches that of bone. At the same
time it must be mentioned that in a
rare instance prostatic hypertrophy has
been very soft in texture.
It results from the elaborate investigations of Dr. Henry Thompson that the chronic hypertrophy of the prostate is of varying kinds and degree. The following is an outline of his arrangement.

The hypertrophy may be General or Limited.

The General hypertrophy may affect the entire gland or be confined to the muscular layers.

In regard to the latter of these varieties of general hypertrophy, in common with Dr. C. H. Jones, Mr. Thompson has established the interesting fact that the seminal enlargement is most common due to hypertrophy of the muscular substance of the gland, and that such hypertrophy is of most frequent occurrence in the lateral lobes.

The Limited hypertrophy may occur in the form either of Tumors or Outgrowths.

The tumors are generally of small size, and may consist in their intimate structure either of muscular tissue unassociated with other texture, or of muscular tissue in union with a certain quantity of the glandular elements.

The outgrowths occur most commonly.
at the posterior median portion. And most frequently, coexistent with these outgrowths, there occurs general hypertrophy of the tissue of the prostate.

Upon the canal of the urethra which courses directly through the substance of an hypertrophied prostate, some change will be wrought, as an expected natural consequence. When it passes through the gland it will commonly be found flattened. The direction pursued by it is often during; when it is curved to one side the convexity will be most commonly directed to; wards the right, in consequence of the curvilinear circumstance, first pointed out by Sir Everard Home, in which succeeding observers have ascertained, viz. that, in the majority of cases, if the prostate be examined, its left lobe will be found more frequently hypertrophied than the right, & it is noticed that, when the change is going on simultaneously in both lobes, its progress in the right lobe does not keep pace with its progress in the left. The advantage gained by a knowledge of this fact is of evident importance; when in cases of enlarged prostate, it is found necessary for retention of urine to pass the