

with these restrictions imposed, the following things are shown:

Bottini's Operation	Cured 30.4%	Good results 84.4%
Perineal Operations	" 60.0%	" " 88.0%
Suprapubic Operations	" 66.0%	" " 90.0%

The proportion of accidents which are shown to have been associated with one or another of the operations is as follows:

In a series of 267 Bottini operations there were 31 or 11% of failures recorded, and incontinence of urine resulted in 7 or 2.6% of them.

In 59 cases reported by Willy Meyer in which the Bottini operation had been performed by him, there were 6 in which epididymitis and 2 in which orchitis occurred. In one of the former suppuration ensued, also in one of the latter, while in another of them there was gangrene of the testicle. Perineal abscess and urinary infiltration occurred in 4 cases owing to the membranous urethra having been injured. In one other case the rectum was injured and recto-urethral fistula resulted. Altogether, then, there were more or less serious complications in 22% of the series.

In 245 cases of perineal operations, there were 2 in which the peritoneum was opened — 7 in which urethro-rectal fistula resulted — and 9 in which incontinence followed the performance of the operation. Altogether 7.2% of accidents.

A small proportion of incontinence and of persistent fistulae only ensued upon the performance of the suprapubic operation. Altogether about 6% of accidents occurred in connection with it.

CONCLUSIONS.

It will be readily conceded that the following surgical axiom is a sound one.

Of a number of operations all having the same object in view, that one is to be preferred, other things being equal, which accomplishes the object as completely as any other, with the least destruction of tissues involved, and with the greatest safety to the patient.

There can be no doubt but that the above ends are best attained by the perineal operations when done in accordance with their best technique; this fact has been amply demonstrated with regard to the relative dangers, the relative limitations and the relative effectiveness of the results obtained by the three methods we have had under consideration. It is consequently the method of choice. This is not to say, however, that it is the only operation which should be used. On the contrary, both the suprapubic and the Bottini have a well defined place. The former is the operation to be preferred in cases in which a very large middle lobe makes the perineal operations especially difficult. The Bottini operation is to be preferred to either of the others if the patient's condition is such as to expose him to the danger of shock or post-operative pulmonary complications; and finally if one or another of the limitations to the performance of the Bottini operation is present, or there is too grave a general condition of the patient to warrant the employ-

ment of the Bottini, and if something must be done to relieve him, we will perform a palliative operation for drainage. The nature of the local conditions we shall have determined beforehand by means of the cystoscope.

RESULTS OF OPERATIONS UPON THE PROSTATE. MASSACHUSETTS GENERAL HOSPITAL.

From Jan. 1, 1892, to July 1, 1893.

BY HUGH CABOT, M.D., BOSTON.

This period has been selected because prior to 1892 operations upon the prostate were few and far between and the cases operated upon since July, 1903, are too recent to be of any value as showing results. It is hardly necessary to indicate that in considering these statistics they should not be treated as comparable with the results of any one operator. They represent the results of many operators, both experienced and inexperienced, and they also represent in many cases the results of operation done under conditions so desperate as to give little hope of a successful issue under any method of treatment. Up to within a very few years the cases selected for operative treatment were always the unfavorable ones and must not, therefore, be compared with the results of operations upon cases of election. No selection has been made; all cases have been tabulated; and the results may be taken as showing the most unfavorable aspect of the question.

TABLE 1. This table deals with the mortality of three operations. In the first group were placed the cutting operations upon the prostate; in the second, operations done with the Bottini electrocautery, and in the third group the results of castration. This latter group was added to show that an apparently trivial operation upon men of this age is attended by considerable mortality. In calculating the mortality the number of operations and not the number of patients has been taken. Thus in some cases three operations, separated by an interval of months or years, had been done upon one patient, thus considerably affecting the mortality if only the number of cases had been considered.

TABLE I.

	Number.	Average Age.	No. Deaths	Mortality
Cutting Operations	53	63+ yrs.	9	17.0%
Bottini Operations	8	61+ yrs.	0	0.0%
Castration	34	66.7 yrs.	5	14.7%

This table gives a fair idea of the mortality of cutting operations in a general hospital during the last ten years. That very much better results may be obtained at the present time by individual operators may be taken for granted. The number of Bottini operations is too small to give any proper idea of the mortality, and the operation will certainly carry with it a quite noteworthy death rate.

TABLE 2. This table deals with the results as far as they can be collected. No case was entered as a result that was not seen or heard

from at least one year after operation. Cases were regarded as cured when they were symptomatically well and either regarded themselves or were regarded by their physicians as cured. No attempt was made to apply the absolute test that the patient should completely empty his bladder at normal intervals. Cases are marked "relieved" when their condition is much better than that prior to operation, but when some frequency or a small amount of residual urine keeps them from being regarded as cured.

TABLE II.

RESULTS OF CUTTING OPERATIONS.

	Cases Heard From.	Well.	Relieved.	Same or Worse.
Number	36.0	11	6	8
Per Cent.	69.3	44	24	32

From this table it appears that about two thirds of the cases operated upon by all methods were improved by the operation. The remaining third were in most cases not essentially worse than before operation, though in two cases their present condition was distinctly more uncomfortable than before operation.

TABLE 3. In this table I have attempted to compare the results of partial operations with those of complete operations. By partial operations are meant those in which only a portion of the prostate was removed. This was generally a third lobe, removed by the suprapubic route. In some cases a considerable amount of tissue was taken, in others only a small pedunculated growth was removed. The complete operations were largely done either by the combined method, suprapubic and perineal (Alexander), or by one of the modifications of the perineal method.

TABLE III.

RESULTS OF CUTTING OPERATIONS.

	Well or Relieved.	Same or Worse.
Partial Operations	57%	43%
Complete Operations	83%	17%

This table shows that the complete operation has given much better permanent results and there are no cases recorded as the same or worse which were not at least as well as before operation. All the cases that were made worse by operation were partial operations.

TABLE 4. In this table I have grouped all the patients who entered the hospital for treatment of enlarged prostate during the ten years from 1892 to 1902. It will be of interest as showing the number of cases recorded as surgical, that is, requiring surgical treatment. It is also interesting as showing the point of view in regard to the cases suitable for operation and as indicating the waves of surgical opinion which have passed over this community. It will be noted that the statistics reflect very accurately the opinion of the general practitioner in the surrounding country as well as that of the hospital surgeon. Thus during the years 1894 and 1895 the operation of castration was being advised and patients were evidently sent to the hospital for that purpose. The following two years show the reaction which followed the failure of this

operation to do all that was claimed for it. The years 1898 and 1899 show the impetus given to prostatic operation by the free discussion of Alexander's combined method which followed his paper read here on that subject. The year 1900 shows a temporary reaction, while the following two years show the influence of the belief in perineal prostatectomy and the increased use of the Bottini operation.

TABLE IV.

Year.	'92	'93	'94	'95	'96	'97	'98	'99	1900	'01	'02
Total No. Cases	4	6	13	28	3	17	37	43	24	36	27
No. Operated	1	1	4	10	1	4	23	17	7	19	13

If the year 1903 had also been added to the list the tendency to operate upon more cases out of the total number submitted would be still more obvious as the records of that year show very clearly the influence of perineal prostatectomy.

In closing I would say that I have collected these cases at the request of the surgical staff, and think that some credit is due them for their willingness to allow their cases to be thus roughly grouped together since they give a very unfavorable idea of the condition of operative surgery if taken at their face value. It is to be hoped that the limitations of such a series of statistics will be borne in mind and that they will be allowed only such weight as they deserve and that no attempt will be made to draw definite conclusions from such a small series of cases.

THE USE OF THE CYSTOSCOPE IN DETERMINING WHAT OPERATION IS ADVISABLE IN PROSTATIC HYPERTROPHY.

BY F. C. BALCH, M.D., BOSTON.

Few people would care to decide what operation was advisable in prostatic hypertrophy from a cystoscopic examination alone, but in connection with the other methods of examination commonly used it often gives us very valuable information as to how we should proceed with the case. Usually the examination is easily made without the use of a general anesthetic, as the use of cocaine takes away nearly all the pain. The urethra must be large enough to admit the instrument and the bladder must be capable of holding about five ounces of fluid without trying to expel it. The absence of these two conditions may make general anesthesia necessary as may also extreme sensitiveness of the prostate, as for instance where there is much ulceration. The view of the prostate may save us in some cases from serious mistakes. Thus in a recent case where the Bottini operation had been advised the cystoscope showed the growth in the prostate to be cancerous and a suprapubic operation was advised instead. Until comparatively recently the use of the cystoscope has been a difficult proceeding requiring very careful manipulation and often failing to demonstrate conditions which operation later proved had existed. Improvement in the older instruments and the