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A Clinical Review of 115 Inpatients with Prostatic Hypertrophy

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115 inpatients with prostatic hypertrophy were treated during the years 1952 to 1958 in our clinic.

The patients with prostatic hypertrophy did not show remarkable annual increase in number. They occupied 48 per cent of male inpatients older than 60 years (Table 1).

Table 1. Patients having Prostatic Hypertrophy

	Outpatients		Inpatients				
	Total	P.H	Total	Older than 60 years		P.H	Operated Cases
				m.	f.		
1952	1518	27	223	18	2	14	5
1953	1608	34	219	21	2	14	9
1954	1714	39	231	32	2	12	11
1955	1930	40	252	34	7	16	14
1956	2130	57	281	40	3	16	12
1957	2254	74	273	48	4	27	24
1958	2378	70	342	48	9	16	16
Total	13532	341	1831	241	29	115	91

The average age of the patients was 67 years. The youngest was 51 and the oldest 82 years (Table 2).

The patients came from various districts in Japan, but 67 per cent lived in Kyoto (Table 3).

There was remarkable variety in the period during which the patients had been suffering from some discom-

Table 2. Incidence in all Groups

Age	Cases	
50~59	12	
60~69	49	Average : 67
70~79	49	Youngest 51
80~	5	Oldest 82
Total	115	

Table 3. Districts where Patients came from

Kyoto City	62
Kyoto Prefecture	15
Shiga	15
Hyogo	10
Fukui	4
Osaka	3
Nara	2
Shizuoka	1
Mie	1
Wakayama	1
Ehime	1
Total	115

forts related with prostatic hypertrophy (Table 4). No previous prostatic surgery had been performed on them in other hospitals prior to admission to our clinic.

Most patients complained of two or several troubles characteristic in prostatic enlargement. However, chief complaint was noted which had most afflicted them or they noticed as the first complaint (Table 5).

Table 4. Symptom-positive Period prior to Admission

Year	Cases
~0.5	11
0.5~1	10
1~2	16
2~3	13
3~4	11
4~5	13
5~6	3
6~7	3
8~	7

Table 5. Chief Complaints

Difficult Urination	38 (39.5%)
Urinary Retention	
Incomplete	24 (25.1%)
Complete	13 (13.5%)
Frequency	8 (8.3%)
Bloody Urine	3 (3.1%)
Urinary Incontinence	4 (4.2%)
Miction Pain	4 (4.2%)
Weak Stream	2 (2.1%)

As to the complications recognized preoperatively, coexistence of other lower urinary tract lesions was seen in 22 cases including 12 cases (10.4%) of bladder stones which were removed at the time of operation. Cardiovascular conditions such as arteriosclerosis, coronary insufficiency and high blood pressure were disclosed through physical examinations including chest X-ray and electrocardiography by a reliable physician to whom we used to refer our patients in order to decide their surgical risk. In these cases, meticulous pre-and postoperative care was taken as well as good management during anesthetization and operation. Diabtes mellitus was indeed a severe complication which might have caused poor operative risk and poor wound healing. Out of 4 patients having diabetes mellitus, surgery was carried out in 3 cases succesfully and one patient died postoperatively. It was found necessary to maintain normal blood sugar level with insulin and dietetic treatment (Table 6).

Residual urine was noted from 0 to 1140 ml. Average was 330 ml.

Table 6. Complications

A. Urological.

Bladder Stone	12
Urethral Stricture	3
Hydrocele testis	3
Periurethral Abscess	2
Prostatic Calculus	2
Prostatic Abscess	2
Epididymitis	1
Bladder Diverticulum	1

B. Others.

Arteriosclerosis	15
Coronary Insufficiency	10
Hypertension	5
Diabetes Mellitus	4
Hernia	3
Hemiplegia	2
Bronchial Asthma	1
Pulmonary Emphysema	1
Lung TB	1
Bronchitis	1
Tabes Dorsalis	1
Hemorrhoid	1
Atheroma	1

Renal function was of satisctory in 98 cases, impaired in 17 cases which showed the two hours excretion below 50% in PSP test.

Although there are various surgical routes to the prostate, retropubic prostatectomy has became prevalent since Millin's original description in 1949. Enucleation of adenoma was performed through retropubic approach in 81 cases. In one case Retzius' space could not be entered because of the dense adhesion due to the previous cystolithotomy and we were obliged to take up suprapubic way (Table 7).

Table 7. Methods of Operations

Transurethral Surgery (Wolf)	3
Perineal Approach (Young)	5
Suprapubic (Fuller-Fleyer)	2
Retropubic (Millin)	81
Total	91

All following reports are concerned with retropubic prostatectomy we carried out in 81 cases.

Few modifications were made in the original operative technique.

1) Anesthesia was spinal in every case.

2) The Trendelenburg position was used in every patient.

3) The skin incision was median except the very rare case of Cherney's incision in which the excellent exposure was gained. Median incision gave us an adequate exposure to perform the retropubic surgery and had advantage of the less tissue damage.

4) Retzius space was entered deeply.

5) The way how to deal with the preprostatic veins was up to the development of the venous plexus. Useless clamping with long forceps were sometimes made to result new bleeding and to waste time. Effective ligatures should have been made at the distal and proximal points of veins.

6) The prostatic capsule was longitudinally and sometimes transversely incised.

7) Enucleation of adenoma was made in the usual manner. In one case quite a new method was successfully attempted in such a way as had no injury of the urethra.

8) Bleeding from the injured capsular vessels were controlled by packing gauze into the prostatic bed without making any special ligatures.

9) Required time for operation ranged from 49 min. to 252 min. The average was 122 min.

10) Common Nelaton's catheter was indwelled in every case with a few exceptional cases in which Foley hemostatic catheter was applied. Purulent urethritis was inevitable in every case because of the chemical stimulation of the rad rubber catheter which clung to the urethral secretions. Catheter was indwelled for 13.7 days postoperatively in average.

11) Cystostomy was made in several cases preparing for unfortunate outcome of the indwelling catheter.

12) Frequent and gentle irrigation for 24 to 60 hours was forced to remove blood clots in the cathter and the bladder.

The average weight of the removed prostatic adenoma was 45g. ; the lightest 7 g, the heaviest 250 g.

Table 8. Weight of removed Adenoma concerning 81 Cases of Retropubic Prostatectomy

Weight (g)	Cases
~10	2
10~20	6
20~30	12
30~40	11
40~50	7
50~60	4
60~70	4
70~80	4
80~90	2
90~	2

Average 45
Lightest : 7
Heaviest : 250

Table 9. Postoperative Disorders (Out of 81 Cases of Retropubic Prostatectomy)

Fistula Formation	43
Bladder stone	2
Osteitis pubis	1
Serum Hepatitis	1
Postoperative Death	9

Pathohistological examination revealed 6 cases(7.4%)of unexpected carcinoma of prostate. Campbell had reported 52 cases (5.2%) out of 1000 cases. Coexistent bladder carcinoma was found out by autopsy in a patient who had died uremic death 4 months postoperatively. In all other cases, histology revealed benign hyperplasia.

Primary wound closure was carried out in 38 cases, and in 43 cases urinary fistula developed accompanied with poor wound healing.

Causes of postoperative deaths are listed in Table 10. Postoperative mortality rate was 11%. Out of 5 deaths due to vascular disorder, we experienced an instructive case in which 70-year-old man died a sudden death when he strained to pass his bowels. Autopsy disclosed pulmonary embolism which is one of the most serious vascular accidents encountered after prostatic surgery. A man of 82 years died of severe

Table 10. Causes of Death (9 Cases)

Age of Patient	Cause of Death	Postoperative Period till Death
1) 78	Myocardial Failure	3 days
2) 65	Hemiplegia with General Weakness	10 〃
3) 73	Acute Renal Insufficiency due to Pyelonephritis	4 〃
4) 72	Uremia due to Arteriosclerotic Contracted Kidney	2 〃
5) 62	Diabetes Mellitus	6 〃
6) 70	Pulmonary Embolism	7 〃
7) 69	Stomach Dilatation and Pneumonia	7 〃
8) 82	Severe Hemorrhage	14 〃
9) 67	Uremia due to unexpected Bladder Tumor	4 months

secondary hemorrhage from unexpected cancer on the 14 th day.

Some of these deaths might have been avoided by careful pre- and postoperative management.

Other 72 patients became free from obstructive discomforts and able to pass normal stream. Neither stricture nor incontinence was experienced postoperatively.

和 文 抄 録

前立腺肥大症手術最近7年間の統計的観察

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助　手　友　吉　唯　夫

1952年より1958年までの7年間に京大泌尿器科を訪れた13,532名の外来患者のうち前立腺肥大症患者は341名（2.5%）で，このうち入院せる115名は，同期間中60才以上男子入院患者241名の48%をしめていて本症が重要な老人性泌尿器疾患であることを示す　この115名についてみると，年令は51～82才．平均67才；症状発現より入院までの期間は1～2年が最も多く；合併症としては12例に膀胱結石をみとめ，全身的には動脈硬化症，EKG 上冠不全を示すものが注目された．残尿量は 0～1140cc，平均 330cc であつた．このうち手術的療法を行なつたのは91例で，1953年以降は原則として全例に恥骨後前立腺摘出術を行なつてきているが，その81例についてみると，手術所要時間は 49分～252分，平均122分；カテーテル留置期間は平均13.7日；摘出腺腫重量平均45g，最大250gであつた．術後，摘出組織標本で期待しなかつたガンを6例（7.4%）に発見した．手術創が多少とも哆開し尿漏出をきたせるもの43例，術後膀胱結石発生例2例，恥骨々炎1例，血清肝炎1例等を経験したが，尿道狭窄，失禁例等はなく手術効果は概して優秀であつた．手術時死亡はなく，術後死亡は 9例を経験し，うち5例は心血管系の障害に基因するもので老人外科の立場から注意を要する．

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