PROSTATIC OBSTRUCTION IN SINGAPORE

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Prostatectomy is perhaps the commonest operation performed in men of old age groups. Although the method of its performance is mainly a matter of individual preference, the time for operation especially in cases of acute retention of urine is still debatable. It is generally agreed that the most favourable time to operate is when the bladder is uncontaminated, yet it is a common practice in many hospitals to carry out prostatectomy after a period of catheterisation.

The method of management of prostatic obstruction in this Unit has undergone many changes in the last few years. The early attempts at dealing with acute retention of urine due to prostatic hypertrophy by emergency prostatectomy was largely substituted by catheterisation and early prostatectomy. As the volume of work increased and the facilities, staff and availability of blood became relatively inadequate, the period of indwelling catheterisation before prostatectomy became longer and longer. This change in attitudes has provided the opportunity for the study of cases of retention of urine treated by varying periods of catheterisation prior to prostatectomy.

This paper is an analysis of the results of 215 cases of prostatic obstruction admitted to the Unit from 1960 to 1964. The following is the number of cases admitted each year during the five year period:

Year:	1960	1961	1962
No. of Cases:	35	50	40
Year:	1963	1964	Total 5 years
No. of Cases:	48	42	215

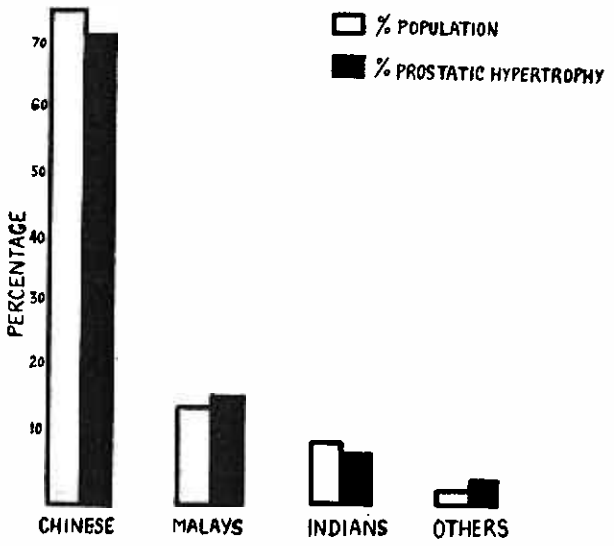
Singapore has a population of one and three quarter millions. During the period of this study nearly all surgical cases were admitted to one or the other of two Surgical Units of the General Hospital, Singapore. A relatively small number of cases would have been treated in private hospitals.

RACIAL INCIDENCE

The multi-racial population of Singapore consists of 75 per cent Chinese, 14 per cent Malays, 9 per cent Indians and Pakistanis and 2 per cent Europeans, Eurasians and others. Of the 215 cases, 154 were Chinese, 35 Malays, 17 were of Indian origin and the 9 others included Europeans, Eurasians and one Jew. Table 1 shows the relationship between the proportion of the different races in Singapore to their incidence of prostatic hypertrophy.

It will be noted that there is no significant variation in incidence of prostatic hypertrophy in the different race groups.

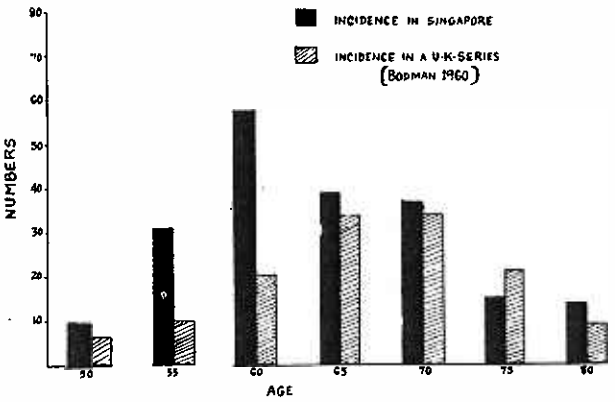
TABLE I



AGE INCIDENCE

80 per cent of the cases analysed were between the ages of 55 and 75 years. The youngest in the series was a Malay aged 49 and the oldest a Jew aged 102. Table II compares the age incidence in this group with European figures (Bodman, 1960).

TABLE II



The average age in this series is 63 years compared with 69 years in Bodman's figures.

PRESENTING SYMPTOMS

Of the 215 cases no less than 195 (90·7 per cent) were admitted because of acute retention of urine and the rest (9·3 per cent) presented with other symptoms of prostatic hypertrophy. In 90 per cent of these, this was the first episode of retention although half the number of these cases gave a history of previous prostatic symptoms for a varying period of six months to two years. Most of the cases with acute retention were from the public wards while those from the private wards were mainly elective ones. The incidence of acute retention reported by British authors vary, but are considerably below ours. Wells (1953) reported a low incidence of 23 per cent and Tagart (1961) of 44 per cent. Ellis and Leatherdale (1958) noticed a higher incidence. Our high incidence is probably due to the fact that the majority of our public patients seek medical attention only when their symptoms become urgent.

OPERABILITY RATE

The operability rates quoted by different authors also tend to differ markedly and vary from 69 per cent (Tagart, 1962), to 97 per cent (Scorer, 1962). In our series the operability rate was only 90·7 per cent. In twenty cases (9·3 per cent) only permanent suprapubic cystostomy could be done because of advanced super-added conditions which were as follows:

Pulmonary:	
Active P.T.B.	10
Chronic Bronchitis Bronchial Asthma Emphyesma	6
Cardiac:	
Infarction	4
Aortic Incompetance	1
Neurological:	
Tabes Dorsalis	1
Cerebral Thrombosis and Hemiplegia	2
Renal:	
Uraemia, Cystitis and Cachexia	2

Some patients suffered from more than one of the listed conditions. However, it can be seen that active advanced pulmonary tuberculosis is still a major consideration in surgical procedures in Singapore. It is a major cause of the low operability rate as adjudged by modern-day standards.

MORTALITY

It is well known that the mortality rate in acute retention is greater than that of elective cases and steadily increases with age. Hanley (1960), reviewing 214 cases noticed a mortality rate of 8 per cent in cases with acute retention as opposed to 2·5 per cent in cases with no retention. Most of the deaths from prostatectomy nowadays are due to causes outside the urinary tract (Tagart, 1961). Many of these are cardiovascular and respiratory causes and account for the increased mortality in persons of advanced years. Causes directly attributable to the operation such as haemorrhage and infection are largely controlled by present day techniques and antibiotics.

There were five deaths in 195 cases that underwent prostatectomy in our series giving a mortality rate of 2·5 per cent. All of these were in cases of acute retention treated with initial catheterisation. As shown below the mortality in three out of five cases were due to purely systemic causes.

REPORT ON FATAL CASES

Case 1: Eurasian aged 68 years had a prostatectomy for acute retention of urine after preliminary catheterisation for three days. He died on the third postoperative day following acute myocardial infarction.

Case 2: 74 year old Chinese diabetic, with acute retention of urine treated with an indwelling catheter for two days and a prostatectomy afterwards. He died 20 days later from bron-

chopneumonia, and cystitis due to B. coli and B. proteus.

Case 3: 63 year old Indian, with overflow incontinence who underwent operation following catheter drainage for 8 days. On the second day, he went into shock and subsequently died. An E.C.G. before death showed evidence of myocardial infarction.

Case 4: Chinese aged 72, with hypertension (B.P. 240/140) and a history of coronary heart disease, had a prostatectomy after twelve days of catheter drainage. On the fourth post-operative day he developed hemiplegia and died a month later after an attack of myocardial infarction.

Case 5: Eurasian aged 67, with a history of pulmonary tuberculosis and diabetes had a prostatectomy after 30 days of Gibbon's catheter drainage. He died four months later with severe cystitis and ascending pyelonephritis and tuberculous bronchopneumonia.

ASSOCIATED LESIONS

Over 50 per cent of all the cases had some associated lesion as follows:

General:	Pulmonary Tuberculosis	25
	Chronic Bronchitis, Emphysema and Asthma	10
	Atherosclerosis and Coronary heart disease	5
	Diabetes	5
	Osteoarthritis	3
Local:	Piles	30
	Inguinal hernia	15
	Hydrocele	6
	Bladder stone	10
	Bladder diverticula	5
	Renal and ureteric stones	7
	Non-functioning kidney	5
	Calyceal and renal cysts	2

MORBIDITY

For purposes of studying the morbidity in various forms of management the cases were classified into four groups as follows:

Group I. Immediate or elective prostatectomy done without initial catheterisation. (23 cases)

Group II. Early prostatectomy done for acute retention within five days of catheterisation. (59 cases)

Group III. Delayed prostatectomy done for acute retention after five days of catheterisation. (78 cases)

Group IV. Two stage prostatectomy with preliminary suprapubic cystostomy. (35 cases)

It will be noted that a high proportion of patients still undergo two-stage prostatectomy in this Unit. This method of management is reserved for and is found to be satisfactory in cases of active pulmonary tuberculosis discovered on admission; cases of retention of urine following other major surgical procedures; cachetic patients; patients with chronic retention and uraemia; patients who have come with an established suprapubic cystostomy from other hospitals. This method of management is also reserved for cases that have had repeated catheterisation resulting in severe cystitis and urethritis.

Wells (1954) noted that the incidence of wound sepsis and transient suprapubic leakage rose sharply in patients who had been catheterised before operation. The longer the catheter was left the greater were the chances of infective complications. We have been able to confirm these observations.

HAEMORRHAGE

This complication occurred in 5 per cent of cases in Group II and 11 per cent of cases in Group III. In two cases secondary haemorrhage occurred as late as the third week following operation. Ps. Pyocyanea was cultured in 80 per cent of these cases while mixed groups of organisms consisting of B. coli, B. Proteus and Staph. Aureus were found in 20 per cent.

WOUND INFECTION

Minor infections of wounds resulting in delayed healing occurred in nearly 20 per cent of the Group II cases and 25 per cent in Group III while it was 32 per cent in the Group IV cases. Actual pus formation and breakdown of the wound was noticed in 8 per cent of Group II, 10 per cent in Group III and 5 per cent in Group IV cases. Of the infecting organisms B. coli was the commonest in all groups except Group IV in which the infection was usually due to mixed organisms. In a number of cases it was observed that where Ps. Pyocyanea occurred in the early postoperative phase, it was later replaced by B. Coli and other organisms.

SUPRAPUBIC LEAK

Suprapubic leak usually occurred 5-7 days after operation when the catheter was removed.

This was present in 8 per cent of the Group II; 40 per cent in Group III and 50 per cent in Group IV cases. Most of the fistulae closed after a further period with an indwelling catheter and gentle suction. However, 8 per cent of Group III were also complicated by infection and breakdown of the wound and 10 per cent of Group IV required operative closure of the suprapubic wound.

INCONTINENCE

Though most of the cases of prostatectomy had some minimal degree of incontinence from which they recovered spontaneously within six weeks, severe incontinence occurred in 4 per cent of cases in Group II, 15 per cent of cases in Group III and 13 per cent of cases in Group IV.

URETHRITIS

This occurred in 8 per cent of Group II cases and 20 per cent in Group III.

The incidence of epididymo-orchitis, late stricture of the urethra and vesical calculus were too low to warrant analysis.

POSTOPERATIVE STAY IN HOSPITAL

An analysis of the average postoperative stay in hospital is as follows:

Group I.	-	-	12 days
Group II.	-	-	15 days
Group III.	-	-	21 days
Group IV.	-	-	28 days

This shows a steady increase from Group I to Group IV and is directly related to the incidence of complications.

SUMMARY

1. 215 cases of prostatic hypertrophy admitted to one of the two Surgical Units of the General Hospital, Singapore between 1960-1964 (5 years) are reviewed.
2. There is no significant racial prediliction to his disease.
3. Acute retention is a very common mode of presentation because most patients sought medical attention only when the symptoms became urgent.
4. The operability rate is lower than in European countries. A considerable number of two stage prostatectomies are still dneo because of a high incidence of concomitant disease especially pulmonary tuberculosis.
5. A mortality rate of 2·5 per cent is comparable with other workers.
6. The morbidity is considerably increased by prolonged catheterisation and appears to be directly related to the preoperative period of catheterisation.

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