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(Received March 17, 1972)

This is a review of four series of 142 suprapubic prostatectomies each, covering the years 1942 to 1970. The early history of suprapubic prostatectomy is recounted to provide a background for judging the results since 1942. Since the first series, the age of the patients has risen progressively and there has been an associated rise in cardiovascular disease. The postoperative mortality has declined from 8.5% in the first series to 1.4% in the current series. This improvement seems related to improved hemostasis during surgery and improvements in drugs for treating infection and cardiovascular complications.

This communication provides a review of 568 patients who underwent suprapubic prostatectomy from 1942 to 1970. Various trends in the age of the patients, associated urological diseases, associated medical diseases and, more importantly, surgical morbidity and mortality are identified. Advances in medical and surgical management are discussed as they pertain to operative morbidity and mortality.

At the turn of the century, a patient suffering from prostatic obstruction faced several possible alternatives. Among these were intermittent or periodic catheterization, bilateral orchietomy, cystotomy and, finally, prostatectomy. The hazards of periodic catheterization were reported by Squire of New York who found that the average life expectancy following the institution of periodic catheterization was two years and eight months [3]. Orchietomy as a form of therapy never achieved much popularity because patients were reluctant to submit to this procedure and obstruction was not invariably relieved, particularly if bladder calculi were present. The use of permanent cystostomy for the drainage of urine was, and still is, associated with calculus formation, leakage, recurrent infections and the inconvenience of the tube itself. Attacking the prostate directly for the purpose of relieving obstruction had been only sporadically successful prior to 1895 when Eugene Fuller published his report of six successful operations where the patients were treated by suprapubic prostatectomy [5]. Freyer of England subsequently reported the successful use of the suprapubic route of enucleation and, by 1920, had performed over 1500 such operations [6].

The morbidity and mortality of early attempts at prostatectomy were frightening by modern standards. In 1900 Fuller reported the mortality of suprapubic
prostatectomy to be 15–18% [4]. In Freyer's first 100 cases the mortality was 10% [6]. These values were not excessive when one considers that these surgeons operated without the aid of adequate renal and cardiopulmonary evaluation, antibiotics, whole blood for transfusion or satisfactory anaesthesia. Moreover, patients were often in chronic urinary retention or near retention for long periods of time before undergoing appropriate surgery. The causes of death in these early series of prostatectomy reflect the degree of renal impairment present and inability to adequately treat blood loss and infection. Sixty-nine percent of all deaths following prostatectomy by the suprapublic or perineal route were attributed to uremia, hemorrhage, shock, or sepsis, in that order [3]. By 1920, however, Freyer had lowered his mortality rate to 5.33%, a value comparable to the 3.77% mortality rate achieved by Hugh Young with the perineal procedure [3]. Most surgeons, however, did not attain these outstanding results and such success must be attributed largely to the skill of these particular surgeons.

In 1937, Randall reported a mortality rate of 4.8% with one-stage suprapubic prostatectomy and a 12.5% mortality rate with the two-stage procedure [15]. The increased mortality rate in the two-stage group was attributed to the larger number of poor risk patients. Of these poor risk patients, 20% were uremic, 14% were markedly debilitated, 20% were bleeding so profusely that immediate control was necessary, and 5% had significant heart disease [15]. Hinman, in his textbook published in 1935, stated that the mortality of suprapubic prostatectomy ranged from 5 to 10% [7]. He also reiterated that for most patients, prostatectomy was "preferable to catheter life".

In 1952, Bulkley and Kearns reported the results of prostatic surgery from our hospital in 866 patients operated upon during the years 1942 to 1950 [1]. In this study 142 patients underwent suprapubic prostatectomy and 724 patients underwent transurethral resection. During this time the patients had the benefit of fairly accurate blood chemistry determinations and bacterial identification techniques. Excretory urography was used extensively for evaluation. Both general and spinal anaesthesia were available and were relatively safe. Blood banking techniques had been perfected so that blood replacement could be achieved with relative safety to the patient. Finally, a relatively full spectrum of antibiotics was available during this period. The patients' characteristics of this period reveal that only one patient experienced preoperative renal failure. Nevertheless, 50% of these patients required preoperative catheter drainage because of a large residual or urinary retention. Significant cardiovascular disease was found in 23% of these patients and diabetes mellitus in 4%. In this initial group the operative mortality was 8.5%. Four patients died of pulmonary embolism, three patients of congestive heart failure and one patient of myocardial infarction. Two deaths were the result of severe hemorrhage. Pyelonephritis accounted for two deaths. Eight patients, therefore, died from cardiovascular complications and four died either directly or indirectly of complications related to the urological disease.

A second series of 142 patients who were operated upon during the years 1953–1961 [11] were reviewed. The average age was 67.3 years. Marked renal