Prostatic carcinoma has familial incidence. It has a relatively high frequency in the black population in U.S.A. and a relatively low frequency amongst Jews and Japanese. Mortality from prostatic carcinoma constitutes the second most frequent cause of deaths from cancer in the male population in the U.S.A. Extensive investigations are being conducted by the National Prostatic Cancer Project in the U.S.A. to determine if a high-risk group can be further identified.

Prostatic carcinoma is not associated with characteristic distinct symptoms which are often indistinguishable from those of benign hyperplasia of the prostate. Advanced stages of prostatic carcinoma are associated with back pain and anemia, which indicates bone metastasis. Rectal examination for the detection of prostatic carcinoma of the prostate is indicated in patients over 50 years of age. A hard nodule or an area of induration in the prostate gland is cancer unless proved otherwise. Several cytological, biochemical, radiological and pathological techniques have been employed for the diagnosis of prostatic carcinoma.

Prostatic carcinoma is detected unexpectedly and incidentally in some 30-50% of autopsy examinations of patients who have died from some other cause. The pathological diagnosis of prostatic carcinoma falls into two categories: a) incidental detection either in tissue removed for a clinically benign enlargement of the prostate or at autopsy of a patient who has died of other causes and b) clinically symptomatic cancer of the prostate. Recent improvements in the diagnostic techniques may increase this percentage.

Since the discovery in 1933 by Gutmann and Gutman where the presence of acid phosphatase was found in the serum of patients with metastasizing cancer of the prostate, numerous studies of rather conflicting results have been reported. Further research is needed to correlate serum acid phosphatase levels to the histologic-cytologic differentiation of prostatic carcinoma. Prostatic carcinoma is usually a slow-growing tumor and with proper treatment and sometimes even without treatment patients may live for many years. Despite numerous clinical advances and innovations with hormonal therapy, age-adjusted death rates for prostatic cancer have not significantly changed in the past 40 years.

Prostatic carcinoma in man remains an enigma. The results of primary treatment, such as surgery or irradiation from an interstitial or external source, are at a clinical plateau. Further investigations through cooperative, randomized clinical trials are needed for the development of additional chemotherapeutic agents. Extensive fundamental research is needed on the biochemistry and physiology of the prostate to correct historically-conditioned errors of concept and terminology.

Extensive investigations have been conducted on the occurrence, etiology, mortality (Table 1); structure, ultrastructure, endocrinology, metabolism, enzymology, immunology, microbiology (Table 2); classification, grading, diagnosis (Table 3); pathology, physiopathology, complications (Table 4); chemotherapy, radiotherapy, surgical therapy (Table 5); and animal models (Table 6) for human prostatic carcinoma.
Table 1. Summary of some recent research on occurrence, etiology and mortality from human prostatic carcinoma (1976-78).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Studies, concepts and techniques</th>
<th>Author</th>
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| Occurrence         | incidence rates by race and social class | Ernster et al. 1978  
|                    | misleading reports: Japanese incidence of prostatic cancer | Ravich 1978  
|                    | prostatic obstruction            | Kambal 1977         |
|                    | epidemiology                     | Rotkin, Tulinius 1977 |
|                    | pattern of tumors                | Naik 1977            |
|                    | recurrent benign prostatic hypertrophy | Steg et al. 1976  
|                    | latent carcinoma                 | Breslow et al. 1977 |
| Etiology           | role of hormonal factors         | Baranowska et al. 1977 |
|                    | primary transitional cell carcinoma | Green et al. 1976  
|                    | malacoplakia following urinary tract infection | Rhodes et al. 1977  
|                    | granulomatous prostatitis with Mycobacterium kansasii and Mycobacterium fortuitum | Lee et al. 1977  
|                    | congestion, T-mycoplasma infection | Frick et al. 1976  
|                    | prostatic mycosis nonsurgical diagnosis | Bissada et al. 1977  
|                    | sexuality & prostatitis          | Drach 1976 |
| Survival mortality | biologic and pathophysiologic prognosticating indices | Madduri et al. 1978 |
|                    | cohort mortality: U.S. nonwhites  | Ernster et al. 1978  
|                    | survival after open prostatectomy | Dias et al. 1978  
|                    | prognosis judged on clinical classification into stages and histological grading | Nissen et al. 1977  
|                    | long-term survival from Mullerian duct carcinoma | Hodgson 1975  
|                    | survival of child with rhabdomyosarcoma | Burke et al. 1976  
|                    | evolution of treatment at a comprehensive center | Murphy et al. 1976 |

Table 2. Summary of some recent research on the structure, ultrastructure, endocrinology, metabolism, enzymology, immunology and microbiology of human prostatic carcinoma (1976-78).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Studies, concepts and techniques</th>
<th>Author</th>
</tr>
</thead>
</table>
| Structure and ultra-structure | scanning electron microscopy | Gaeta et al. 1977  
|                      | transmission electron microscopy | Stone et al. 1977  
|                      | morphology and immunology | Mickey et al. 1977  
|                      | adenoma and carcinoma in cell culture & heterotransplantation | Schroder et al. 1976  
|                      | exfoliative cytology          | Ramzy et al. 1977  
|                      | histochemistry and electronmicroscopy | Kircheim 1976  
|                      | tumor morphology and hormone treatments in untreated and estrogen-treated | Sinha et al. 1977  
|                      | freeze-fracture membranes and junctions | Sinha et al. 1977  
|                      | antiandrogenic effects of spironolactone | Baba et al. 1978  
| Secretion          | placental proteins and their subunits as tumor markers | Broder et al. 1977  
| Endocrinology      | sex hormone binding, globulin binding testosterone, estradiol and prolactin | Bartsch et al. 1977  
|                    | hormone levels and type of carcinoma growth differentiation | Dennis et al. 1977  
|                    | castration and adrenal testosterone | Bartsch et al. 1977  
| Metabolism         | steroid receptors              | Sanford et al. 1977 |
|                    | androgen binding, androgen tissue and sex hormone-binding globulin | Gustafsson et al. 1978, Bashirelahi et al. 1976, Ghanadian et al. 1978, Hawkins et al. 1977  