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نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها
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بالرسالة صفحات
لم ترد بالأصل

PROSTATIC INTRAEPITHELIAL NEOPLASIA

Thesis
Submitted for Partial Fulfillment of
M.D. Degree in Urology

By

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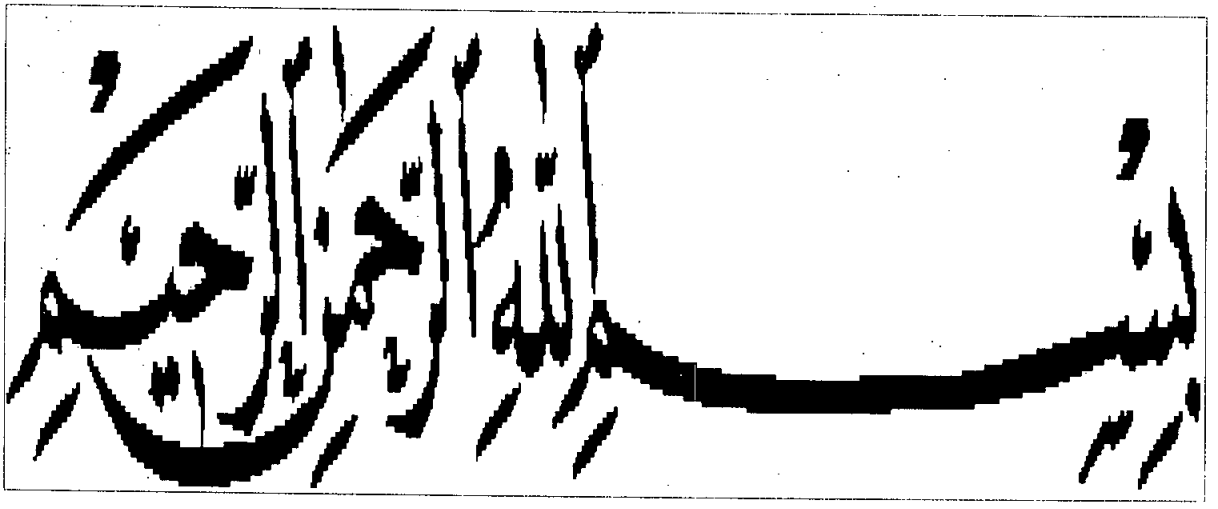
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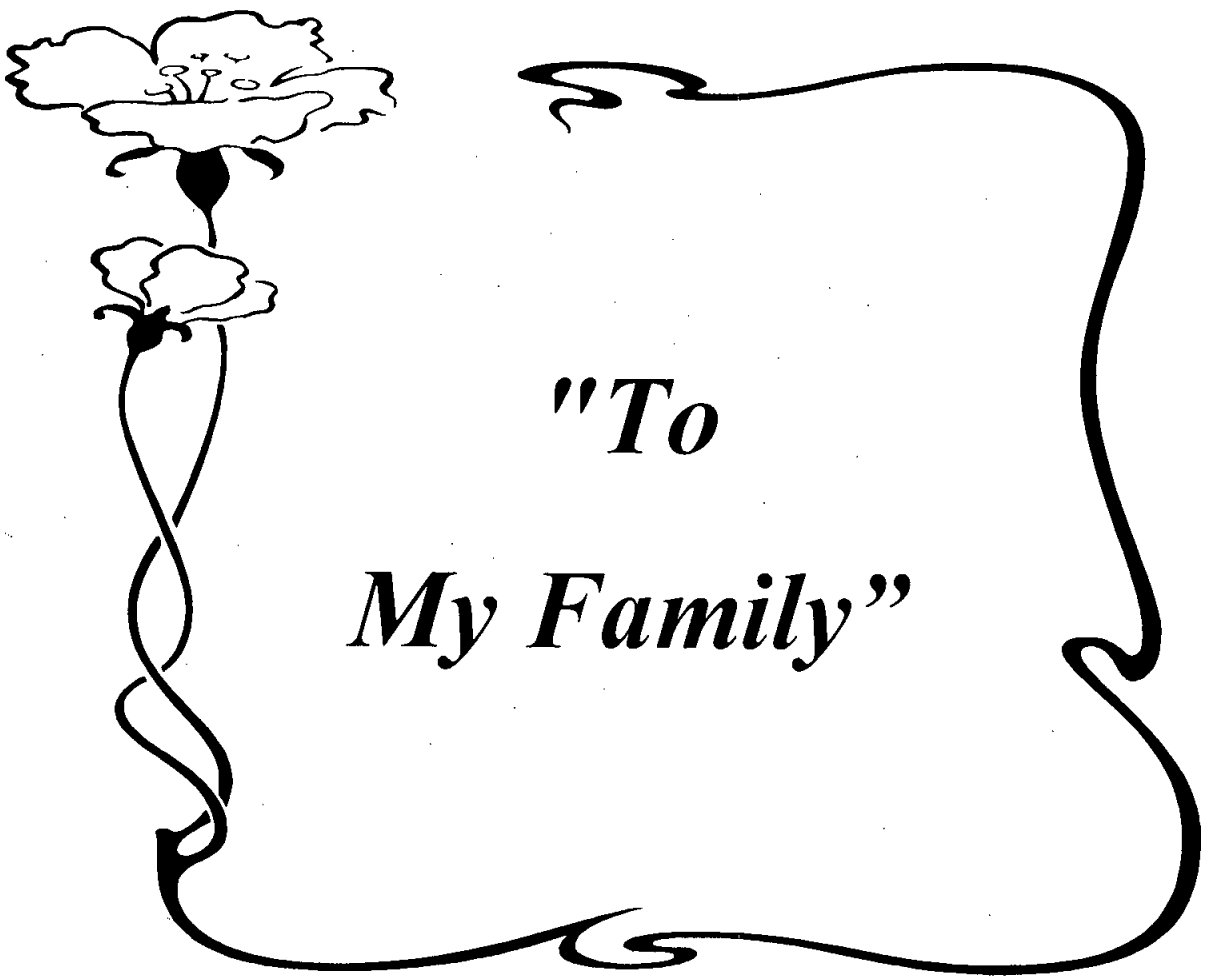

"To

My Family"

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INTRODUCTION

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Prostatic intraepithelial neoplasia (also referred to as PIN, intraductal dysplasia) is characterized by a proliferation and dysplasia of the normal two layers of the prostatic epithelium. This lesion fulfills the majority of the requirements for premalignant change in the human prostate. The normal and benign hyperplastic prostatic epithelium is composed of luminal and basal cell layers. In carcinoma, this basal cell layer is absent, while disruption of this layer occurs in cases of PIN, the extent of which correlates with the grade of the disease ***(Ellis and Brawer, 1993)***.

Three grades or subsets of PIN are currently recognized:

1- Grade I: Acinar crowding, stratification or both with preservation of the basal cell layer-nuclei of variable size with normal chromatin-rare nucleoli.

2- Grade II: Increased acinar crowding with some disruption of the basal layer-nuclei of variable size with increased chromatin-presence of large nucleoli.

3- Grade III: Cribriform like acinar architecture, disruption of basal cell layer in 56% of cases, markedly enlarged nuclei with increased chromatin-frequent large pleomorphic nucleoli.

PIN is divided into two grades (low grade and high grade) to replace the previous three grade scale; PIN 1 is considered low grade and PIN 2 and 3 are considered high grade, and the term PIN is used to indicate high grade one as the high level of interobserver variability with low grade PIN limits its clinical utility ***(Bostwick, 1996).***

In more than 80% of cases, PIN has been demonstrated in the perihperal zone of the prostate, since the majority of invasive carcinomas originate from this zone, a causal relationship has been speculated ***(Kozlowski and Grayhack, 1996).***

Prostate specific antigen (PSA) is serine protease produced by prostatic epithelial cells. Because both benign and malignant prostatic tissue elaborates PSA, the possibility exists for benign processes such as benign prostatic hyperplasia as well as premalignant changes as PIN to interfere with the accuracy of PSA in the detection and staging of prostatic carcinoma. Histo-pathological studies suggest a pathway for the egress of PSA from the prostatic acini and ductules where it is present in high concentrations, through the basal cell layer and basement membrane into the prostatic interstititum ***(Ellis and Brawer, 1993).***

Ronnett and Colleagues in 1993 demonstrated that PIN has been recognized as a premalignant lesion in prostate cancer, because high grade PIN is strongly associated with the presence of prostate cancer,

these patients have undiagnosed carcinoma as the source of the elevated serum PSA values, and PIN does not significantly add to the serum PSA level in men with low volume prostate cancer, and there is no correlation between PIN and PSA.

However, ***Brawer and Nagle in 1989*** studied 65 men undergoing TUR or open simple prostatectomy and found that mean serum PSA in patients with PIN alone was intermediate between that of benign tissue and carcinoma.

High grade PIN is not often found in prostates without cancer and its identification as an isolated lesion suggests a need for further biopsy to rule out concurrent invasive carcinoma, this feature appears to represent a one-dimensional continuum of increasing severity and thought also to represent a temporal continuum of deviation from normal toward the emergence of invasive cancer, which has been demonstrated at its point of origin from grade II and III PIN ***(Quinn et al., 1990 and McNeal et al., 1991).***

Kozlowski and Grayhack in 1996 noted the development of cancer in approximately 60% of patients with high-grade prostatic intraepithelial neoplasia contrasted to its development in only (1) of (47) of those with low grade. The inability of needle aspiration cytology to distinguish high grade PIN and invasive prostatic carcinoma and the reported association of PIN with elevated levels of PSA increase the importance of an awareness of this lesion by the clinician.

AIM OF THE WORK