PROSTATIC CANCER - A RETROSPECTIVE STUDY OF 50 PATIENTS

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This Objective of this study was to see histologic typing of prostate cancer and its relation to patient's age, as no curative therapy exists for the advanced stages. This is a retrospective study of 50 patients suffering from prostatic adenocarcinoma and admitted at Basic Medical Sciences Institute, Jinnah Postgraduate Medical Center Karachi. A total of fifty patients between ages of 50-80 years diagnosed during the period of 1990-2001 suffering from prostate cancer were included in this study. The result showed that maximum number of tumours were in age group ranging from 61-70 years, (58% of total cases). Sixteen were (32%) well-differentiated tumours, twenty-eight (56%), moderately differentiated tumours and six (12%) were labelled as undifferentiated tumours. It was concluded that the majority of tumors were moderately differentiated tumours. Early diagnosis is useful for patients; because high grade tumours have bad prognostic markers.

Key Words: *Prostate, adenocarcinoma, and histological grading.*

INTRODCUTION

Adenocarcinoma of prostate is the commonest malignancy of male urinary tract and the second commonest cancer in European men[1]. Many of these tumours occur in elderly people, remain latent, have a long doubling time and are of little clinical interest[2]. However, in elderly patients, carcinoma of prostate may be an aggressive and fatal disease [3,4]. Therefore early detection of prostate cancer is associated with an improved outcome[5].

Factors that might predict the clinical course of the patient and the likelihood of advanced disease in early stage cancer are of great interest. Host tumour factors such as patient's age, race, hormonal factors and environment, all have a role in disease production. Clinical tumour progression, such as development of metastasis is correlated with certain microscopic features such as cell motility, nuclear features, lymphatic infiltration and blood vessel invasion.

In terms of diagnostic factors that might predict long-term outcome, include tumour grade, tumour volume and ploidy. Of these factors only tumour grade has been reliably and consistently correlated with prognosis. Tumour volume is not easily quantitated and shows low sensitivity to prognosis. DNA ploidy analysis has been shown to correlate with prognosis but in this case sensitivity of test is also poor.

Histologic tumour grading is a strong predictor of outcome in prostate cancer. Histologic pattern strongly correlates with biological potential, a finding exploited by many grading systems proposed since the pioneering work of Broders, more than sixty years ago[6-8]. All existing grading systems successfully identify well dif-ferentiated cancers, which progress slowly, and poorly differentiated cancer, which progresses rapidly. However, the grading systems are less successsful in subdividing most moderately differentiated cancers, which have an intermediate clinical and biological potential. As histological pattern of the prostate carcinoma correlates strongly with biologic behavior of malignancy[9].

It is with this back-ground that the present study was under taken to find out frequency of histologic grade in the prostate adenocarcinoma.

MATERIALS AND METHODS

This study was performed on formalin fixed paraffin embedded blocks of all cases diagnosed as adenocarcinoma of prostate glands at Department of Pathology, Basic Medical Sciences Institute, Jinnah Post Graduate Medical Center, Karachi, Pakistan. Blocks and slides of 124 cases of prostate can-

cer reported from the period 1990-2001 were retrieved. Fifty out of theses were selected for histologic grading, and stained with Hematoxylin and Eosin, and read under 10X objective.

RESULTS

There were two types of specimens i.e. transurethral and suprapubic prostectomies. The patients;

Table 1: *Age Group Prostate Carcinoma*

| Age group		No:	%.
A	49-50	06	12
B	51-60	13	26
C	61-70	29	58
D	71-80	02	04
	Total	50	100

age varied from 50-85years (mean 67.5). Table 1 shows distribution of 50 cases of prostate cancer into different age groups. Maximum numbers of tumours among total cases were in age group ranging from 61-70 yeas i.e. 29 tumours (58% of total cases).

Out of Fifty cancers, sixteen (32%) were well differentiated, twenty eight (56%) were moderately differentiated and six (12%) were undifferentiated tumours as enlisted in Table 2. There is maximum number of three histologic typing in age group C of 61-70 years. The histologic findings have been shown in photomicrographs 1 to 3.

DISSCUSSION

The grading system for prostate carcinoma is a strong prognostic marker. Grade is one of the strongest predictors of biological behavior in prostate cancer, including invasiveness and metastatic potential[10]. Every measure of recurrence and survival is strongly correlated with cancer grade, including crude survival, tumour free survival, metastasis free survival, and cause specific survival[11]. As tumour volume increases, tumour may become progressively less differentiated. Cancer associated with an elevated serum
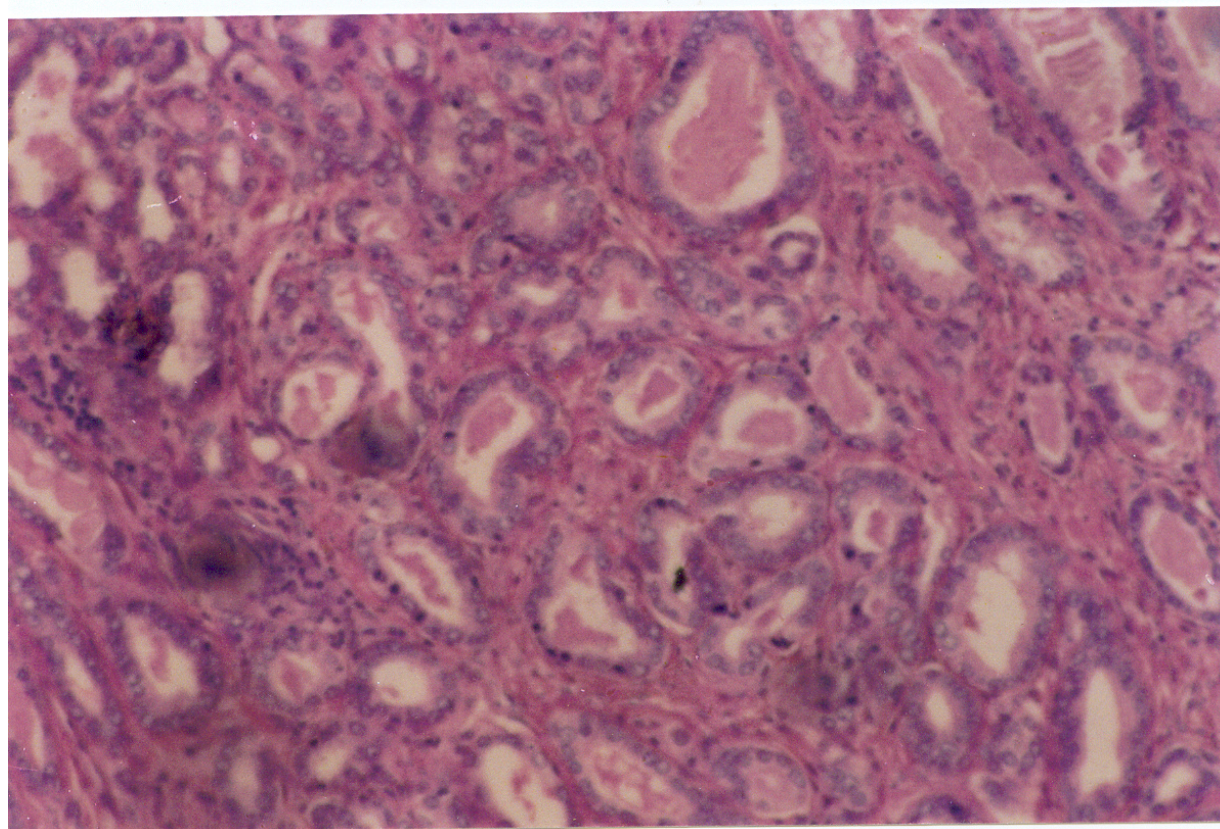
Photomicrography 1: Well-differentiated adenocarcinoma of prostate. H & E stain. Magnified 20X.
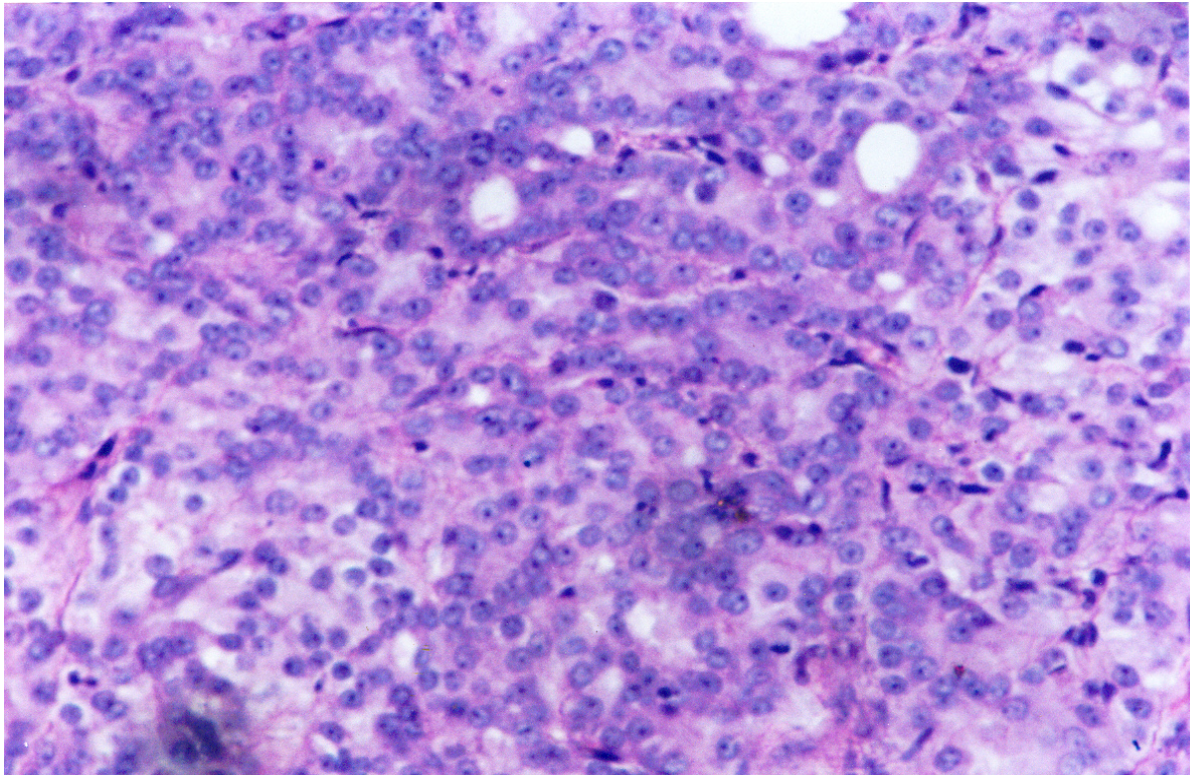
Photomicrograph 2: Moderately-differentiated adenocarcinoma of prostate. H & E stain. Magnified 20X.
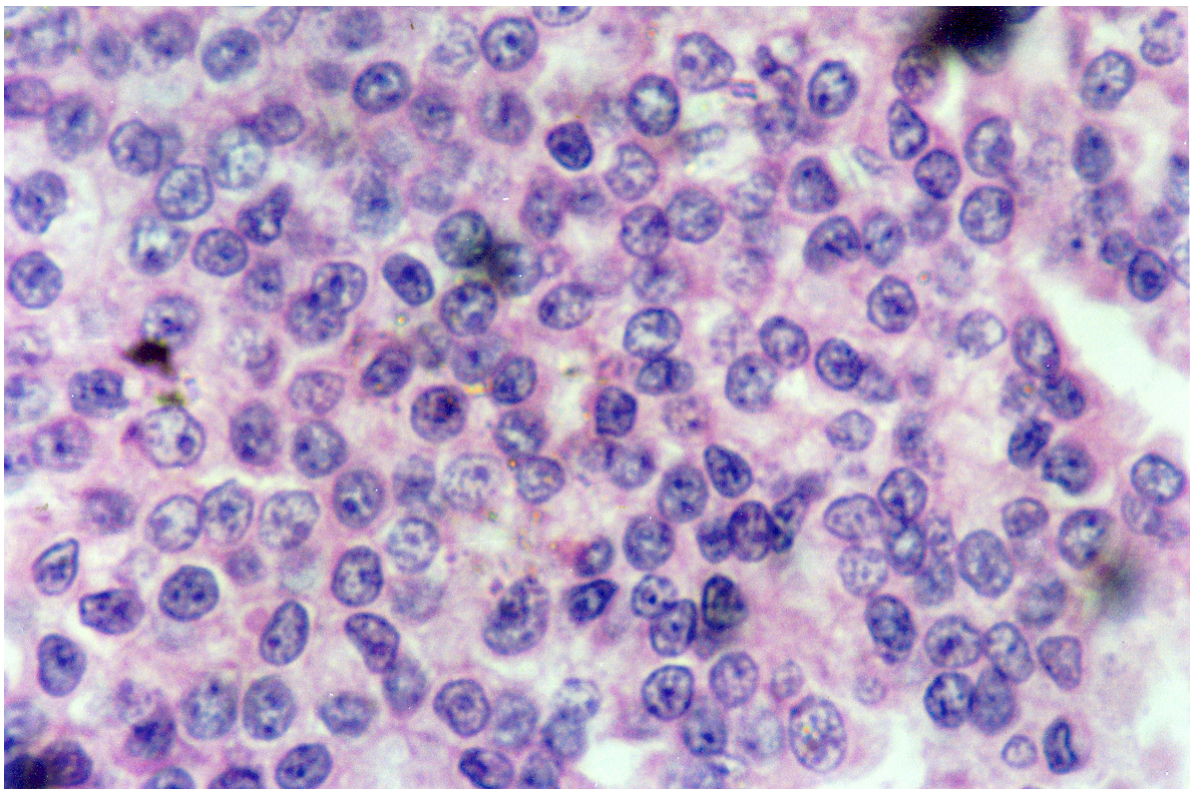
Photomicrograph 3: Un – differentiated adenocarcinoma of prostate. H & E stain. Magnified 40X.

PSA is more likely to be of higher grade, larger volume, and more advanced pathological stage than cancer with normal PSA level[12,13]. Grade may be related to site of origin of cancer within prostate. Cancer arising in transition zone of prostate appears to be lower grade than more common cancer arising in peripheral zone[14,15]. Grade is included among other prognostic factors in therapeutic decision making, including patients age and health.

In present study majority of tumours were moderately differentiated. The findings of the present study are in accordance with those of Ahmad and Muzaffar[16].

Ziao[17] found 10.5% well-differentiated tumours, 21.2% moderate differentiated tumours and 68.4% poorly differentiated tumours. Eric J[18] describes well (22%), moderate (40%) and poorly (66%). The findings of previous research literature also indicates that histologic grading is a strong prognostic factor in prostate cancer. Future refinements that combines grade with other prognostic factors should allow more precise stratification of patients for treatment.

Table-2: *Co-Relation of Histologic Grading with Age in Prostate Carcinoma.*

Age group		Well differentiated	Moderately differentiated	Un-differentiated
A	49 – 50	02	04	--
B	51 – 60	05	07	1
C	61 – 70	09	15	5
D	71 – 80	--	02	--
Total		16	28	6
%		32	56	12

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