ABSTRACT

Prostatism is a common problem in the geriatric age group. Prostatic hyperplasia and Carcinoma of the prostate are increasingly frequent with advancing age. Prostatic lesions on routine H & E staining, especially when malignant tissue is limited and is mixed with benign prostatic glands or due to the presence of benign mimickers of carcinoma or technical problems like crush artifact, can cause a diagnostic dilemma. Therefore it is not uncommon to under diagnose small focus of prostatic adenocarcinoma or over diagnose benign lesions mimicking cancer. In such situation, Immunohistochemical detection of basal cells are widely used. The most commonly used basal cell specific markers are Cytokeratin 34BetaE12 (High molecular weight cytokeratin) and p63.

Aims:

The aim of the present study is to study the spectrum of prostatic lesions among the biopsies received in a tertiary care hospital in south India and to assess the utility of Cytokeratin 34BetaE12 and p63 by Immunohistochemistry in premalignant and malignant lesions of prostate.

Materials and methods:

A total of 50 prostatic specimens (both retrospective and prospective) received in department of pathology over 2 years were evaluated. Routine hematoxylin and eosin staining and immunohistochemical staining against CK 34βE12 were performed in 18 cases (premalignant and malignant lesions.)

Results:

Among the 50 biopsies received, 78% cases were TURP, 32% cases were Trucut needle biopsies. 32 (64%) cases were of Nodular hyperplasia of prostate, one case (2%) was Prostatic intraepithelial neoplasia and 17 cases (34%) were Carcinoma of Prostate. They were common in the sixth to seventh decade and majority presents with urinary symptoms. Pseudo neoplastic lesions like basal cell hyperplasia and squamous metaplasia were noted accounts for 32% and 6% respectively. Adenocarcinoma diagnosed were graded according to Modified Gleason grading, IUSP 2015 guidelines. Gleason grade 2 was seen in 41% cases with score 3+4 = 7.

Immunohistochemistry was done on 18 cases. p63 is expressed in the nuclei of basal cells, whereas 34βE12 stains their cytoplasm. 4 cases showed entrapped benign glands. Compared to p63, four cases stained by CK 34βE12 showed 1+ staining intensity. This false positive reaction may be because of formalin fixation and antigen retrieval.

Conclusion:

Benign prostatic hyperplasia is the most commonly encountered prostatic lesion. Definitive diagnosis of benign and malignant lesions of prostate can be made by histopathological study of prostatic biopsies. Immunohistochemical stains helps in confirmation and in cases with diagnostic dilemma. Ultimately, understanding the potential pitfalls of IHC stains and paying careful attention to morphologic details are crucial to prevent the false-positive and false-negative diagnosis.

Key Words:

Prostatic lesions, Gleason’s grading, CK34BetaE12, p63.