

**Immunohistochemical Expression Of
Cyclooxygenase-2 (Cox-2) In Benign Prostatic
Hyperplasia And Prostatic
Adenocarcinoma**

Thesis

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Abstract:

The main three pathologic processes that affect the prostatic gland with sufficient frequency are inflammation, benign nodular enlargement and tumors. Of these three, the benign nodular enlargement is by far the most common, followed by prostatic carcinoma.

Prostate cancer is one of the most common malignant diseases for on health-care intervention is sought worldwide and in many countries.

The diagnosis of prostate cancer is usually readily made on morphological grounds by use of traditional histological parameters, including architecture, nuclear features, and the presence or absence of a basal cell layer. However, in morphologically equivocal cases the histopathologist may have to resort to the use of immunohistochemistry to resolve the differential diagnosis.

Cyclooxygenase-2 is involved in a variety of important cellular functions, including cell growth and differentiation, cancer cell motility and invasion, angiogenesis and immune function.

Thus, the aim of the present study was to gain further insight into this area by examining the expression of COX-2 in series of sporadic BPH, PIN, prostatic adenocarcinoma using immunohistochemistry and trying to define the mechanisms in which COX-2 is possibly involved and its correlation with clinicopathological features.

The current work studies COX-2 immunohistochemical staining in forty-two randomly selected cases of prostatic lesions, fifteen cases prostatic

carcinoma, ten PIN, and seventeen BPH. The age of most of the studied cases lies between 59-84 with the mean age 70 years old.

Positive immunoreactivity to COX-2 is detected by brown cytoplasmic staining in tumor cells of positive cases

COX-2 immunostaining in the studied cases were positive in almost all cases (97.6% of them and negative in only one case (2.4%).

The presence of COX-2 protein overexpression in prostatic carcinoma stronger than PIN and BPH suggest that COX-2 may play a causal role in cell proliferation and carcinogenesis.

The extent of positive staining correlates with established clinical-pathological risk factors (Gleason score and histological grade).