

Role of co-expression of estrogen receptor beta and Ki67 in prostate adenocarcinoma

ABSTRACT

Purpose: To evaluate the expression of estrogen receptor (ER)-beta and Ki67 in prostate cancer and study their relationship. **Materials and Methods:** We analyzed 101 cases of prostate adenocarcinoma diagnosed from January 2011 to June 2015 in 100 patients. Immunohistochemical staining of ER-beta and Ki67 was analyzed according to Gleason score categorized into prognostic groups of 1 to 5. Double-immunofluorescent staining of ER-beta and Ki67 was performed in a total of 20 cases to study the co-expression and the relationship between these markers within the same tumor. **Results:** A total of 53 of 101 cases (52.5%) were positive for ER-beta expression. There was a positive correlation whereby a high percentage of ER-beta expression was seen in the higher prognostic groups (groups 4 and 5; $p=0.007$). High Ki67 expression was observed in the higher prognostic group, whereas low Ki67 or negative expression was found in the lower prognostic group ($p<0.001$). The majority of cases evaluated with double-immunofluorescent staining (14/20) showed co-expression of ER-beta and Ki67 at the individual cell level. **Conclusions:** ER-beta and Ki67 are independent tumor markers in high prognostic groups. Hence, co-expression of ER-beta and Ki67 indicates a more aggressive tumor with a poorer prognosis.