

Role of Immunohistochemical Expression of AMACR as a Prognostic and

Predictive Biologic Marker in Advanced Prostatic Carcinoma

Iman L.H. Abulkheir M.D.¹, Nevine F.H.Sidhom M.D.¹, Fatma M. A. Abou Elkasem M.D.², Abeer Salah El-Sayed Ismail M.D.³, Hany Fayed Habashy M.D.⁴, Huda Fathy Elsayed M.D.⁵

¹ Department of Oncologic Pathology National Cancer Institute, Cairo University, Egypt.

² Department of Medical Oncology, National Cancer Institute, Cairo University, Egypt

³ Department of Clinical and Chemical Pathology, National Cancer Institute, Cairo University, Egypt .

⁴ Department of Surgical Oncology, Faculty Of Medicine, Fayom University, Egypt

⁵ Department of Nuclear Medicine, National Cancer Institute, Cairo University, Egypt

Abstract:

Background/purpose: Prostate cancer is the second most common cancer in men worldwide. Many studies have focused on the significance of AMACR expression as a diagnostic marker for prostatic carcinoma. Similar studies relating immunohistochemical detection of AMACR in prostatic cancer tissue and the prognosis are much more lacking. We aimed at exploring immunohistochemical expression of AMACR as prognostic and predictive marker in prostatic carcinoma.

Material and Methods: We performed immunohistochemical staining of AMACR on tissue core biopsies of 49 patients with advanced prostatic carcinoma and evaluated its expression in relation to Gleason's score, initial PSA level, nadir PSA level and biochemical failure to androgen deprivation therapy.

Results: Statistically significant relation was obtained between high AMACR expression and high Gleason's score. There was a trend of patients with high AMACR expression to present with higher level of PSA and bone metastasis. A trend was detected for patients with AMACR score 7 to have higher nadir PSA. Patients with AMACR Score 7 experienced biochemical failure in 71.4% of cases, while none of patients with AMACR score less than 7 experienced biochemical failure.

Conclusion: Our preliminary results highlighted the role of AMACR immunoreexpression as a poor prognostic indicator of prostatic carcinoma being associated with high Gleason's score as well as initial PSA level. Also our results highlighted the possible role of AMACR expression as predictive marker of hormonal therapy.

Key words: AMACR, Advanced prostatic cancer, Gleason's score, Prognosis.