Her2/neu EXPRESSION BY REVERSE TRANSCRIPTASE-POLYMERASE CHAIN REACTION IN THE PERIPHERAL BLOOD OF PROSTATE CANCER PATIENTS

Ana Paula Fantinato1,3, Marcos Tobias-Machado2,4, Fernando Fonseca2, Jorge Luiz Freire Pinto1,3, Marcelo Langer Wroclawski2, Eric Wroclawski2, Maurício Verotti2, and Auro del Giglio1

1Disciplina de Hematologia e Oncologia da Faculdade de Medicina da Fundação ABC, São Paulo; 2Disciplina de Urologia da Faculdade de Medicina da Fundação ABC, São Paulo; 3Postgraduate student from Disciplina de clínica Médica UNIFESP, São Paulo; 4Postgraduate student from Disciplina de Hematologia e Hemoterapia da FMUSP, São Paulo, Brazil

Key words: erb-B-2, neoplasm circulating cells, polymerase chain reaction, prostatic neoplasms, receptor.

Background/aims: Evaluation of Her2/neu expression in the peripheral blood mononuclear cell fraction of prostate cancer patients by RT-PCR may afford an opportunity for the detection of circulating tumor cells and thus serve as a marker of micrometastatic disease.

Methods: We studied Her2/neu expression by reverse transcriptase-polymerase chain reaction in peripheral blood mononuclear cell fraction samples of 21 controls and serially in 43 patients with prostate cancer.

Results: None of the 21 controls expressed Her2/neu whereas 23.25% (95% CI, 11.75-38.63) of the patients were positive at entry into the study, and 65.11% (95% CI, 49.07-78.99) of them had at least one positive result during the follow-up period. Her2/neu positivity at study entry did not correlate significantly with PSA level, Gleason score, clinical stage or time to PSA progression. When we analyzed only patients with advanced disease, we observed a trend towards a shorter time to PSA progression in patients with at least one positive Her2/neu result during the follow-up (log-rank test, P = 0.08).

Conclusions: We conclude that Her2/neu expression in the peripheral blood mononuclear cell fraction of prostate cancer patients is frequent and therefore this assay may potentially be useful to detect the presence of micrometastatic disease in men with prostate cancer and for monitoring patients enrolled in trastuzumab-based therapeutic protocols.

Acknowledgments: We thank Dr Israel Bendit for technical advice. This work was conducted at Disciplina de Hematologia e Oncologia da Faculdade de Medicina da Fundação ABC.

Correspondence to: Auro del Giglio MD FACP, Avenida Rebouças 3387, São Paulo, Brazil, 05410-400. Tel/fax 55-11-3819 5007; e-mail sandrabr@netpoint.com.br

Received December 18, 2006; accepted February 2, 2007.