Technology in Cancer Research & Treatment
ISSN 1533-0346
Volume 3, Number 5, October (2004)

Letter to the Editor

Serum Interleukin-8 is Elevated in Men with Prostate Cancer and Bone Metastases

Aalinkeel *et al*. (1) have recently reported that gene expression of angiogenic factors correlates with metastatic potential of prostate cancer cells. The rationale for the study of Aalinkeel et al is that a variety of growth factors, among them interleukin-8 (il-8), can induce angiogenesis (2). Further, parathyroid hormone related peptide (PTHrP) acts to induce il-8 production in prostate cancer cells via an intracrine pathway independent of its classical nuclear localization sequence. This novel pathway could mediate the effects of PTHrP on the progression of prostate cancer (3).

We measured il-8 in the serum of 39 men with biopsy-proven prostate cancer. Their average age was 69 ± 9 (mean ± SD). Serum il-8 was measured with an automated chemiluminometric high sensitivity il-8 protein assay (Immulite, Diagnostic Products Corporation, Los Angeles, CA). We noted a significant elevation of il-8 in men with bone metastases, diagnosed by Tc-99 MDP bone scan, when compared to men with localized disease (Figure 1).

Aalinkeel *et al*. found that il-8 was significantly higher in the more metastatic PC-3 and DU-145 prostate cancer cell lines, when compared to the poorly metastatic LnCAP cells. The results of our study of il-8 in men with prostate cancer support the findings of Aalinkeel *et al*. Therefore, new anti-angiogenic therapies targeting specific genes controlling prostate tumor metastasis may be of benefit in treating prostate cancer.

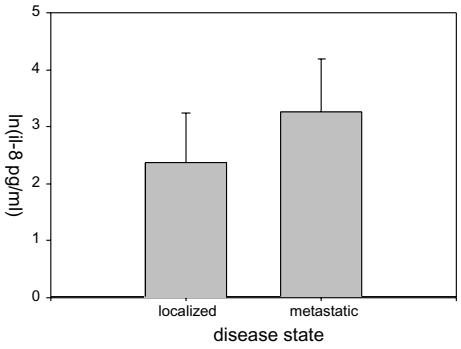

Figure 1: Serum il-8 in men with prostate cancer. Number of men in each group indicated above corresponding error bar. There is a significant difference in the two groups (p = 0.007, two tailed). Natural log transformation was performed to normalize data.

References

1. Aalinkeel, R., Nair, M. P., Sufrin, G., Mahajan, S. D., Chadha, K. C., Chawda, R. P., Schwartz, S. A. Gene Expression of Angiogenic Factors Correlates with Metastatic Potential of Prostate Cancer Cells. *Cancer Res 64*, 5311-5321 (2004).
2. Folkman, J., Klagsbrun, M. Angiogenic Factors. *Science 235*, 442-447 (1987).
3. Gujral, A., Burton, D. W., Terkeltaub, R., Deftos, L. J. Parathyroid Hormone-related Protein Induces Interleukin 8 Production by Prostate Cancer Cells via a Novel Intracrine Mechanism not Mediated by its Classical Nuclear Localization Sequence. *Cancer Res 61*, 2282-2288 (2004).

Steven Lehrer, M.D.
Edward J. Diamond, Ph.D.
Boris Mamkine, M.A.
Nelson N. Stone, M.D.
Richard G. Stock, M.D.

From the Departments of Radiation Oncology, Medicine, and Urology, Mount Sinai Medical Center, New York and the Veterans Affairs Medical Center, Bronx, New York

Correspondence to Dr. Steven Lehrer, Box 1236 Mount Sinai Medical Center, New York, New York 10029 or stevenlehrer@hotmail.com