Prognostic Significance of Vascular Endothelial Growth Factor C in Systemic Malignancies besides Non-Small Cell Lung Carcinomas

Dear Editor,

The recent article by Chen et al[1] was highly interesting. Interestingly, the past few years have seen the emergence of vascular endothelial growth factor C (VEGF-C) as a significant prognostic indicator in several other systemic malignancies besides non-small cell lung carcinomas.

For instance, a poor prognosis is associated with gastro-esophageal junction carcinomas that show accentuated VEGF-C expression.[2] Similarly, in gastric carcinomas, higher VEGF-C expression is correlated with high tumour, node and metastatic (TNM) stage and larger depth of invasion. VEGF-C is a significant indicator of prognosis in gastric carcinomas when taken in conjunction with S100A4 expression and TNM stage.[3] Similarly, higher serum VEGF-C levels are seen in colorectal carcinomas and have a significant correlation to pTNM stages III and IV.[4] Thus higher serum VEGF-C levels in colorectal carcinoma correspond to an unfavourable clinical course.

Similarly, higher histological grade and larger tumour size and metastatic potential have been noted in breast carcinomas with accentuated VEGF-C expression. Breast carcinomas with higher VEGF-C levels demonstrate more lymphatic vessel density and a higher number of retraction clefts thus pointing to a worse prognosis.[5] Similarly, a close relationship exists between tumour prognosis, metastasis and lymphatic vessel density and VEGF-C expression in endometrial adenocarcinomas.[6] In cervical cancers too, VEGF-C expression has a close prognostic relationship with lymphatic metastasis. In fact, the overall 5-year survival rate in cervical cancer patients without VEGF-C expression is almost 88% compared to 48% in patients with VEGF-C expression.[7]

Similarly, Li et al[8] in a recent study of patients with bladder carcinomas have reported that the disease specific survival rate in patients with higher VEGF-C levels was 54.1% compared to 75% in patients with lower VEGF-C levels. The sensitivity of VEGF-C in this study was 76.7%. Similarly, in penile carcinomas, a close association exists between groin metastasis and VEGF-C expression. Patients with penile carcinomas that show increased VEGF-C expression have a worse prognosis.[9] A similar close relationship has been established between Gleason score in prostate carcinomas and VEGF-C expression, thus making VEGF-C a new marker with potential prognostic significance in males afflicted with these tumours.[10]

The above examples illustrate the close relationship between tumour prognosis and VEGF-C expression in malignancies ranging from breast carcinomas to prostate carcinomas. There is a clear need to increase awareness amongst physicians, especially oncologists, about the prognostic benefits of VEGF-C expression.

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