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DJ-1 and its emerging role as a biomarker of systemic malignancies besides lung carcinomas

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To the Editor,

I read with great interest the recent article by Bai et al. [1] in a recent issue of your esteemed journal. The article is highly thought provoking. Interestingly, the past few years have seen the emergence of DJ-1 as a significant biomarker of a number of other systemic malignancies besides lung carcinomas.

For instance, marked variation is seen in serum DJ-1 levels in patients with benign prostatic hypertrophy in comparison to serum DJ-1 levels in patients with prostate carcinomas, with higher levels being seen in the latter [2]. As a result, serum DJ-1 appears to be a biomarker with considerable promise for identifying prostate malignancies. Similarly, DJ-1 is emerging as a promising marker of pancreatic carcinomas [3, 4].

Similarly, higher DJ-1 levels have been noted in nipple secretions from breast carcinoma patients and thus DJ-1 serves as a marker of breast malignancy. In fact, Oda et al. [5] have recently reported that a DJ-1 level greater than 3 nm/mm has a sensitivity of 75 % in predicting breast carcinomas. Similarly, DJ-1 serves as a biomarker of malignancy in laryngeal squamous cell carcinomas. This is confirmed by the fact that the tumor recurrence rate in laryngeal carcinomas that demonstrate up regulated DJ-1 levels is almost twice that in laryngeal carcinomas that exhibit lower DJ-1 levels [6].

DJ-1 is also emerging as a marker of malignancy in other gastrointestinal malignancies besides pancreatic carcinomas. For instance, hepato-cellular carcinomas exhibit augmented DJ-1 levels in comparison to benign liver tissue. Higher DJ-1 levels in fact indicate poor prognosis in hepato-cellular carcinomas [7]. Similarly, DJ-1 promotes tumor proliferation in esophageal carcinomas via the phosphatidylinositol 3-kinase pathway and thereby serves as a marker of poor prognosis in these tumors [8].

The above examples clearly illustrate the significant role of DJ-1 in systemic carcinogenesis and the need for further large scale studies to fully elaborate and understand its carcinogenic effects.

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