IMP3: A New and Important Biomarker of Systemic Malignancies

To the Editor: In the March 15, 2008, issue of Clinical Cancer Research, Sitnikova et al. (1) reported that IMP3 is an independent prognostic marker and can help predict disease progression in patients with superficial urothelial carcinomas of the bladder. Interestingly, over the past few years, IMP3 has been identified as an important biomarker for a number of other systemic malignancies besides urothelial carcinomas of the bladder.

IMP3 is an early biomarker of serous endometrial cancers. For instance, 94% of all serous endometrial intraepithelial carcinoma are positive for IMP3 compared with 0% of endometrial intraepithelial neoplasia (2). IMP3 is also an early biomarker of adenocarcinoma in situ of the cervix. This has been confirmed by a recent study by Li et al. (3) who showed that 93% of adenocarcinoma in situ samples in their study were positive for IMP3. Similarly, IMP3 overexpression can distinguish malignant pancreatic lesions from benign pancreatic lesions (4). Increased IMP3 expression has also been reported in lung cancers. Studies by Jiang et al. (5) and, more recently, Hoffmann et al. (6) have also confirmed the clinical significance of IMP3 as a good prognostic biomarker for renal cell carcinomas. IMP3 also promotes tumor cell proliferation via an insulin-like growth factor II–dependent pathway (7) besides having a major influence on tumor cell invasion (8).

Suda et al. (9) have shown that an HLA-A24–restricted epitope, IMP-3-508, can induce a significant CTL response against IMP3 on lung cancer cells. Clearly, IMP3 seems to be rapidly emerging as a major biomarker and player in the etiopathogenesis of multiple different systemic malignancies. Further studies are needed to identify other molecules that may reduce expression of IMP3 and thus help in the therapeutic management of malignancies such as renal cell carcinomas.

Shailendra Kapoor
Chicago, Illinois

References
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Shailendra Kapoor


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