IL-3 : 招請講演 3**PSA Update-2004**

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Among urologic tumor markers, the discovery and application of prostate-specific antigen has established PSA as a vital tool for the early diagnosis, staging, and monitoring of men with prostate cancer. Since the introduction of this tumor marker, the incidence of prostate cancer has changed dramatically.

While an invaluable tool, issues regarding benign conditions continue to limit the specificity of PSA. Efforts to minimize this problem include various manipulations of total PSA such as PSA density, PSA velocity, and age-specific PSA. Within the last decade, a new PSA revolution has identified various molecular PSA forms that have the potential to improve the clinical utility of this test.

This lecture discusses current findings on these molecular forms of PSA and their potential clinical value in the detection of prostate cancer.

Free PSA

The ratio of free to total PSA has also been used to help detect prostate cancer in men with PSA values < 4.0 ng/mL, as 22% of these patients may also harbor clinically significant cancer. For men in this group, a %fPSA of 25% may improve specificity and has been shown to detect 95% of cancers while preventing 20% of unnecessary biopsies.

Complexed PSA

Although early reports recognized higher levels of PSA bound to ACT within the serum in men with prostate cancer, cross-reactivity among the assays establishing these findings was problematic. However, since the introduction of a novel cPSA immunoassay (Immuno 1 cPSA, Bayer Healthcare, Tarrytown, NY), several studies have demonstrated the ability of cPSA to enhance specificity in prostate cancer detection. For PSA values within the range of 2.0 ng/mL and 6.0 ng/mL, a cutpoint of 2.2 ng/mL for cPSA and 2.5 ng/mL for tPSA demonstrated specificities of 35% and 21.2%, respectively.

Furthermore, these same cutpoints have also been shown to help reduce as many as 14% of unnecessary biopsies. In addition to detection at low PSA levels, cPSA may simplify current prostate cancer screening, as this analyte requires a single measurement.

Subfractions of PSA

Future serum markers for prostate cancer detection that may provide additional accuracy for prostate cancer detection include subfractions of free PSA such as pro-PSA (pPSA), benign PSA (BPSA), and intact PSA.

The recent development of an assay for these nicked forms of free PSA support these earlier. A recent study suggests that the ratio of pPSA and BPSA can distinguish cancer with improved accuracy, especially for PSA values within the diagnostic gray zone and for low %fPSA levels. Although encouraging, these early results using subfractions of fPSA await further scrutiny.