

Know Your Test: Prostate Specific Antigen (PSA) - Dr. David Howdijam MD

Prostate cancer is a serious condition. The PSA is a blood test that can be used to suggest the presence of or monitor prostate cancer. The test measures the total amount of PSA in the blood. PSA is a protein produced by normal cells in the prostate and also by prostate cancer cells. It is normal for all men to have a small amount of PSA in their blood. A raised PSA level may indicate that one has a problem with the prostate, but not necessarily prostate cancer. About 2 out of 3 men with a raised PSA level will not have prostate cancer. And some men with a normal PSA level can also have prostate cancer. The PSA test has been widely used to screen men for prostate cancer. It is also used to monitor men who have been diagnosed with prostate cancer to see if their cancer has recurred after initial treatment or is responding to therapy.

FACTORS AFFECTING PSA LEVEL

Several factors affect the PSA level which include

- age,
- an active urinary infection,
- an enlarged prostate,
- vigorous exercise,
- sexual activity in the 48 hours before the test,
- prostate biopsy in the six weeks before the test,
- digital rectal examination (DRE) within a week before the test.

WHY IS IT DONE?

Getting a PSA might help identify aggressive cancers. Catching a prostate cancer early may make it easier to treat. PSA is done to screen men for prostate cancer. Prostate cancer is less common in men below 50 years, and the average age at diagnosis is 65 to 70 years. It is also done as a follow-up test to see if the cancer has come back after treatment. PSA test may also be done if there is suspicion that the prostate gland is not normal during physical examination.

WHAT HAPPENS AFTER A PSA TEST?

There are usually three main options after a PSA test:

- **IF THE PSA LEVEL IS NOT RAISED**, one is not likely to have prostate cancer and no immediate further action is needed, although one may have further tests to confirm the result.
- **IF THE PSA LEVEL IS SLIGHTLY RAISED**, one probably do not have cancer, but might need further tests including more PSA tests.
- **IF THE PSA LEVEL IS DEFINITELY RAISED**, one would need to see a specialist for further tests to find out if one has prostate cancer.

FURTHER TESTS WHEN PSA LEVEL IS RAISED

If the PSA level is raised, a prostate biopsy may be needed to check if one has cancer. However, biopsies can also miss some cancers and about 2 out of 3 men who have biopsy will not have prostate cancer.

PREPARATION FOR THE TEST

PSA can be done without much special preparation. One should tell the doctor about any medications one is taking because certain drugs might alter the results.

HOW WILL THE TEST FEEL?

There is a slight pain when the needle is inserted into the vein to draw blood. One usually feels only a quick pinprick or stinging sensation.

ADVANTAGES OF PSA TEST

The benefits of PSA testing are

- It may reassure one if the test result is normal.
- It may give one an indication of cancer before symptoms develop.
- It may find cancer at an early stage when treatment could be of benefit.
- If treatment is successful, the worse possible outcomes of more advanced cancer are avoided.

DISADVANTAGES OF PSA TEST

There are certain limitations of PSA testing with the possibility of missing the cancer altogether. The result cannot also tell the difference between slow-growing and fast-growing cancer. As certain factors affect the result, it should always be correlated with other clinical parameters, including radiological findings.

PSA SCREENING CONTROVERSY

The aim of measuring PSA levels in men who have no symptoms of cancer as a screening test for prostate cancer is to reduce the mortality caused by this cancer. However, the usage of PSA as a screening tool for prostate cancer is subject to controversies over its ability to save lives.

PSA screening, due to its low specificity, does not allow differentiating between lethal and non-lethal types of cancers. Hence, systematic screening is inevitably associated with overdiagnosis and potentially, overtreatment. Therefore, not only do these patients not benefit from early detection but they also carry the burden of cancer diagnosis.

Despite the inconvenience caused by the potential overdiagnosis, one may argue that PSA screening can still be considered successful if it improves the disease-specific mortality in the population as a whole.

The PSA test is a part of most health check-up plans for the elder population. If one is concerned about prostate cancer, one can talk to the doctor about one's individual risk and talk through the advantages and disadvantages of the PSA test.

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