Prostate specific antigen test must be repeated before biopsy

Scott Gottlieb *New York*

The blood test that measures prostate specific antigen (PSA) to detect prostate cancer often produces false positive results and should be repeated at least once before an invasive biopsy is performed, a new study says.

"We recommend having the findings confirmed by repeating the test after waiting at least six weeks," said Dr James Eastham, a surgeon in the department of urology at the Memorial Sloan-Kettering Cancer Center in New York and lead author of the study.

"Even if the repeat test shows an elevated level, prostate cancer will only be discovered in about one quarter of men who undergo biopsy... A single, elevated PSA level does not automatically warrant a prostate biopsy," he said.

In the study Dr Eastham and colleagues tested blood samples from 972 men, aged 35 to 89,

who had originally enrolled in a study on preventing colon polyps. A total of five consecutive blood samples collected over four years from each man were tested (*JAMA* 2003;289:2695-700).

Depending on the threshold, between 15% and 37% of the men had at least one high result. A threshold of 2.5 ng/ml yielded the highest number of positive results. A threshold of 4.0 ng/ml resulted in high scores in 21% of the men.

The percentage of men whose high results returned to normal in a subsequent test ranged from 44% to 55%, depending on the threshold. Of those who could be tested again after their level had dropped down to normal, a majority, 65% to 83%, remained normal. Thus some men may undergo an unnecessary biopsy.

Concentrations above 4.0 ng/ml can signal prostate cancer, but not always—sometimes a rise in PSA is due to another cause, and sometimes cancer can occur without a rise. About a fifth of aggressive prostate tumours are found in men with normal PSA concentrations.

The test, which has been in wide use since 1990, has enabled doctors to detect prostate cancer much earlier than they could when they relied just on physical examination. Yet false positive results are common, because cancer is not the only cause of raised PSA concentrations. Inflammation can increase them, as can recent ejaculation. And the enlargement of the prostate that occurs normally with age brings a gradual increase. The new study indicates that natural fluctuation can also lead to high results of the test.

The researchers said their study is limited because PSA concentrations may have been falling in some men as a result of treatment for prostate cancer. However, they said this is unlikely,

because the men filled out healthy surveys annually that asked about newly diagnosed conditions.

Experts continue to argue over whether PSA testing offers any advantage over other screening methods for prostate cancer. The test has not yet been shown to increase life span.

Although the blood samples in the study were taken at one year intervals, the researchers suggested that follow up tests be given after four to six weeks. Testing sooner might not reflect natural fluctuations. "Four to six weeks seems like a reasonable timeframe, considering the anxiety of the patient and the doctor," Dr Eastham said.

Following the recommendation might mean missing some cancers, he added, but only those that are at an early stage. Two large scale studies are under way to determine whether the PSA test reduces the number of deaths from prostate cancer, but their results are not expected until at least next year. □

Doctors should abandon ties and avoid nose rings

Roger Dobson *Abergavenny*

The necktie, that traditional symbol of male medical authority, is under threat. Pressure is mounting for doctors to either pin their ties back to stop the spread of infection from flapping tie ends or get rid of them altogether.

Junior doctors are this week being asked to back a resolution saying that there is no longer a reason for doctors to wear ties while at work and while seeing patients.

Wearing a tie may enhance patients' satisfaction and confidence, say critics, but a dangling tie also substantially increases the risk of passing infection from one patient to another.

"There is no point being very careful about gelling your hands between patients if your tie has just landed in something nasty and then landed on the next patient," said specialist registrar Jim McCaul, who was to propose

the motion at the junior doctors' conference on Friday, after the *BMJ* went to press.

Delegates will be told that female doctors and male nurses are excused ties and that US doctors are not required to wear them.

"On a weekday basis it's still a shirt and tie for men. It's worn to look professional, especially in clinics and outpatients... It's a tricky one, because there is a need to appear formal. If I was going to see a lawyer about something important I would expect them to dress appropriately," said Dr McCaul.

He suggests that doctors should either not wear a tie at all or, if they do, should have it firmly clipped to the shirt to prevent it from coming into contact with patients. On wards, he says, scrub tops are best.

Recognising the risks of ties, some doctors prefer a bow tie in the belief that the lack of a flapping tail reduced the risk of infection. But one multicentre, randomised controlled trial showed that there was no difference in contamination rates between conventional ties and bow ties (*BMJ* 1993;307:1582-4).

The authors of that study concluded, "Because of its nega-

Model of a modern doctor: no dangling tie and no nose ring

tive image and difficulty to tie, the bow tie will probably remain a minority fashion."

A study in Australia that looked at the effect of doctors' dress on their patients' trust and confidence in them found that more than just the tie was involved (*Medical Journal of Australia* 2002;177:681-2).

The study involved 12 doctors in a teaching hospital who over a seven month period removed, changed, or added, at one month intervals, one piece of clothing. In sequence they shed the white

coat, lost the tie, changed from dress pants to flared jeans, changed from dress shirt to Hawaiian shirt, moussed and highlighted their hair, and finally started wearing a nose ring.

The results indicate that, when it comes to patients' confidence, not wearing a tie does not have the biggest negative effect. While two items—formal trousers and shirt—accounted for most of the patients' confidence, the one item that triggered the most dramatic loss of confidence was the nose ring. □