

International Conference on Prostate Cancer

June 22-24, 2015 Florida, USA



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Why wait till it is too late?

In the latest statistical records, Australia and the United States are among the countries in the World where, apart from lung cancer more men die from prostate cancer than from any other cancer. The reason for this is the lack of a diagnostic test being offered that is 100% reliable. The PSA test offers an accuracy of less than 50%, so why bother with it? There is a test that offers, on blinded trials, a sensitivity of 100% as all prostate cancers were correctly diagnosed. However the specificity was 99.2% as there were 3 false positives in 377 samples.

Tests on transgenic (TRAMP) mice have correctly identified the affected mice from the controls at 3 weeks. No other test can do this before 10 weeks of age. False positives in breast cancer found using this technique have been found to be not false, just earlier than could be detected by mammography. So those false positives may be correct only in earlier diagnoses, only time will tell. In the last blinded set of 30 samples, perineural invasions had occurred in 20 of the cases and 1 of these had a lymphatic invasion as well. These men waited too long for diagnosis. The test uses low angle diffraction of skin biopsies, the skin biopsy being taken from the stomach or buttocks using a 3mm Keyes punch. Such biopsies do not cause any problems and are relatively non-invasive whereas biopsies of the prostate cause major infections in many cases. So this test could be run from age 30 or earlier on an annual or biennial routine test. If a prostate cancer is found, it can be located by an MRI. It will be at an early stage and can be removed, mostly without surgery. Since the change in the diffraction pattern is only present while the cancer is present, a further diffraction test can be used to verify the success of the treatment when concluded, that is 100% of the cancer has been removed. This clears the way ahead for the patient. Such a test would eliminate most if not all deaths from this cancer. So my question, what are we waiting for?

Biography

Veronica J James completed her PhD in Physics from the University of NSW in 1971. Working in crystallography, she published 40 papers on the molecular structures of small organic crystals, before moving into the fibre diffraction studies of collagen and keratin. In this area she has carried out the diffraction study that produced the successful structure for hard α -keratin and also pioneered the fibre diffraction diagnostic tests for breast, colon, prostate cancers and for Alzheimer's Disease. She was awarded an OAM for her Phones for the Deaf Program and her Advanced Physics Programs in 1996.

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