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New investigation supports correlation between XMRV and prostate cancer

Novel XMRV retrovirus diagnostic test developed

Philadelphia, PA, April 5, 2010 – The recently discovered retrovirus, xenotropic murine leukemia virus-related virus (XMRV), has been identified in some prostate cancer patients. In light of conflicting data concerning XMRV, standardized diagnostic testing is important to identify patients in which XMRV is present and to determine whether it plays a role in the incidence of prostate cancer. An article published in the April issue of *Urology*® is a step in this direction as researchers from Emory University report the successful development of an experimental clinical test for XMRV.

"We cannot as a scientific community begin to answer the basic questions of XMRV transmission, frequency in the population, association with disease, etc. until we can effectively test for infection," according to lead investigator John A. Petros, MD, Associate Professor of Urology, Emory University School of Medicine and Veterans Administration Hospital.

Dr. Petros and co-investigators adapted technology developed in the HIV arena (neutralizing antibody assay) and have developed a serum test that can identify patients who have previously been infected with the virus. This assay has been rigorously confirmed by two independent labs and two independent technologies (PCR and FISH), thus confidence in the accuracy of the test is high.

The mode of transmission of the virus is unknown. No method is available to screen either blood or tissue donors for infection and no data are available regarding whether the virus can be transmitted by blood transfusion or tissue transplantation. Dr. Petros comments, "The public deserves to know if the next blood transfusion or organ donation will give them XMRV retrovirus, an infection which lasts for life, and could possibly be related to prostate cancer. The failure to develop accurate tests for this virus is a serious public health oversight."

Although the assay used in the present report involved the inhibition of infection of target cells by viral-like particles with the XMRV envelope protein expressed on their surface, results also suggest that more standard serologic tests for antibodies against specific viral antigens can be developed in the future.

The authors conclude that "our report adds to the growing body of evidence that XMRV is indeed a novel gamma-retrovirus capable of infecting humans and that at least some patients with prostate cancer have been infected with XMRV. We have reported serologic evidence of infection and that the serology correlated with tissue-based assays. The concordance of 3 independent methods of detecting infection added confidence to the assertion that this recently discovered virus is real and possibly related to human disease. Robust clinical assays are needed to detect XMRV infection, and much work remains to be done in determining whether XMRV is indeed an oncogenic virus or simply an associated epiphenomenon."

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The article is "XMRV Infection in Patients With Prostate Cancer: Novel Serologic Assay and Correlation With PCR and FISH" by Rebecca S. Arnold, Natalia V. Makarova, Adeboye O. Osunkoya, Suganthi Suppiah, Takara A. Scott, Nicole A. Johnson, Sushma M. Bhosle, Dennis Liotta, Eric Hunter, Fray F. Marshall, Hinh Ly, Ross J. Molinaro, Jerry L. Blackwell, and John A. Petros. It appears in *Urology*, Volume 75, Issue 4 (April 2010) published by Elsevier.
