Microscopy and Purple Color Test for Acid Phosphatase in Vaginal Swabs of Sexual Crime Survivors

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Abstract

Acid phosphatase is an enzyme component of semen. Its detection is important in forensics as a presumptive evidence of seminal stain in sexual crimes. Although it was widely used in developed countries, the technology is not taken advantage by present institutions. To remedy the woes of concerned institutions, tests were carried out in the local setting to determine the sensitivity, specificity, positive and negative predictive values, and the rates of the false negative and false positive results of a purple color test for the presence of acid phosphatase. A field kit from the United States has been assessed and compared to the performance characteristics of sperm detection by conventional microscopy in the Philippine National Police – Crime Laboratory. Results from a paired observation has yielded slightly better performance in terms of sensitivity for the purple color test. This has been significant at more than 99.9% confidence.

Keywords: sperm detection, microscopy, purple color test, acid phosphatase