Cytologic abnormalities detected with Glacial Acetic Acid (GAA) treated thin preps for satisfactory cervical cancer screening

Background: In ThinPrep Pap tests, blood may obscure epithelial cells, creating an unsatisfactory specimen. Pretreatment of vial fluid with glacial acetic acid (GAA) lyses the blood, allowing visualization of the epithelial cells present. Thus, in many patients, the specimen is considered satisfactory for evaluation. Bloody samples are more frequent in women with severe squamous lesions.

Methods: During a routine quality initiative of specimens from the Mississippi Health Department, we examined a five-year period (2012-2016). We processed 1460 ThinPrep Pap tests with GAA converting the majority from unsatisfactory to satisfactory samples. When the interpretation converted atypical squamous cells of undetermined significance (ASCUS), another aliquot was evaluated for high-risk human papillomavirus (HPV) DNA.

Results: An epithelial abnormality was detected in 155 (10.6%) of treated samples. These included 114 ASCUS, 29 low grade squamous intra-epithelial lesions (SILs), 5 high grade SILs, (4 cervical intra-epithelial neoplasia (CIN) 2 and 1 CIN 3) and 7 atypical squamous cells-cannot exclude HGSIL (ASC-H). Four ASC-H patients had subsequent histologic specimens; the interpretations were 3 CIN3 and 1 CIN2. Of these 155, 61% were positive for high-risk HPV, of which 64.4% were positive for types other than 16 and 18.

Discussion: Abnormalities may be obscured in excessively bloody samples resulting in unsatisfactory Pap tests delaying important diagnoses. GAA reduces costs, missed diagnoses, and repeat patient visits. GAA identifies obscured lesions, reducing expenses and patients lost to follow-up.

Biography
Kim Geisinger received his MD from the Medical College of Pennsylvania in Philadelphia, followed by a Combined Pathology Residency at the University of Michigan, Ann Arbor. Subsequently, he completed a Cytology Fellowship at Memorial Sloan-Kettering in New York. He joined the Faculty at Wake Forest University in Winston-Salem, NC. He became Professor of Pathology and of Internal Medicine, and the Medical Director of Cytopathology and of Surgical Pathology. He is currently Professor of Pathology at the University of Mississippi in Jackson, where he is the Medical Director of Cytology. He has 300 peer reviewed publications.

kgeisinger@umc.edu

Kim Geisinger
University of Mississippi, USA