Nugent’s and Hay/Ison scoring criteria for the Diagnosis of Bacterial Vaginosis in WASP prepared smears by using different volumes of vaginal samples collected in ESwab™

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The WASP® and Liquid based Microbiology (LBM) concept have been introduced in the microbiology laboratories by the advent of the ESwab system. In our laboratory we have adopted the LBM system since 2008 and currently are used for a variety of tests, including cultures, Gram and molecular microbiology.

The aim of this study was to compare Nugent’s grading score to the Hay/Ison criterion in WASP® automated preparation using 10µl and 30µl of vaginal samples collected in ESwab™.

**METHODS**

100 vaginal samples were collected with ESwab™ (COPAN) The WASP® was used to prepare smears on slides with 10µl and 30µl loop from each ESwab™ sample All slides were alcohol fixed and Gram-stained.

**RESULTS**

Consider the 10 µl ESwab™ smears (Figure 1A), the Nugent’s scoring results were: 90 patients (90%) with normal vaginal flora, 5 (5%) intermediate flora and 5 (5%) BV. Instead, the Hay/Ison criterion’s results were: 83 patients (83%) had Grade I, 12 (12%) Grade II and 5 (5%) Grade III (BV). About the 30 µl ESwab™ smears (Figure 1B), the Nugent’s scoring results were: 92 patients (92%) with normal vaginal flora, 3 (3%) intermediate flora and 5 (5%) BV. Differently, the results obtained by using the Hay/Ison criterion were: 84 patients (84%) had Grade I, 12 (12%) had grade II and 4 (4%) had grade III (BV). Clue cells were detected in all the BV cases. Only one BV was diagnosed by Nugent’s and missed by Hay/Ison criterion.

**CONCLUSIONS**

In this study, all cases of Bacterial Vaginosis, except one, were diagnosed in both smears prepared with 10 µl and 30 µl ESwab™ samples by both Nugent’s and Hay/Ison criteria.

The only discrepant result was scored as BV according to the Nugent’s in the smear prepared with 30 µl of ESwab™ sample, while was scored as Grade II according to the Hay/Ison criteria. This might be related to the simplified assessment of the Hay/Ison criterion, since the discrepant result was diagnosed as BV because of the presence of clue cells in intermediate flora according to the Nugent’s score.

The data obtained demonstrated that smears prepared by WASP® automated system with 10 µl and 30 µl of ESwab™ vaginal samples are suitable to assess Nugent’s and Hay/Ison criteria for the diagnosis of BV diagnosis.

Smears prepared with 10 µl or 30 µl of ESwab™ vaginal samples are suitable for detecting bacteria vaginosis with both Nugent’s and Hay/Ison criteria.

**REFERENCES**