

Accuracy and Adequacy in assessing cervical pathology in a tertiary Hospital, UAE

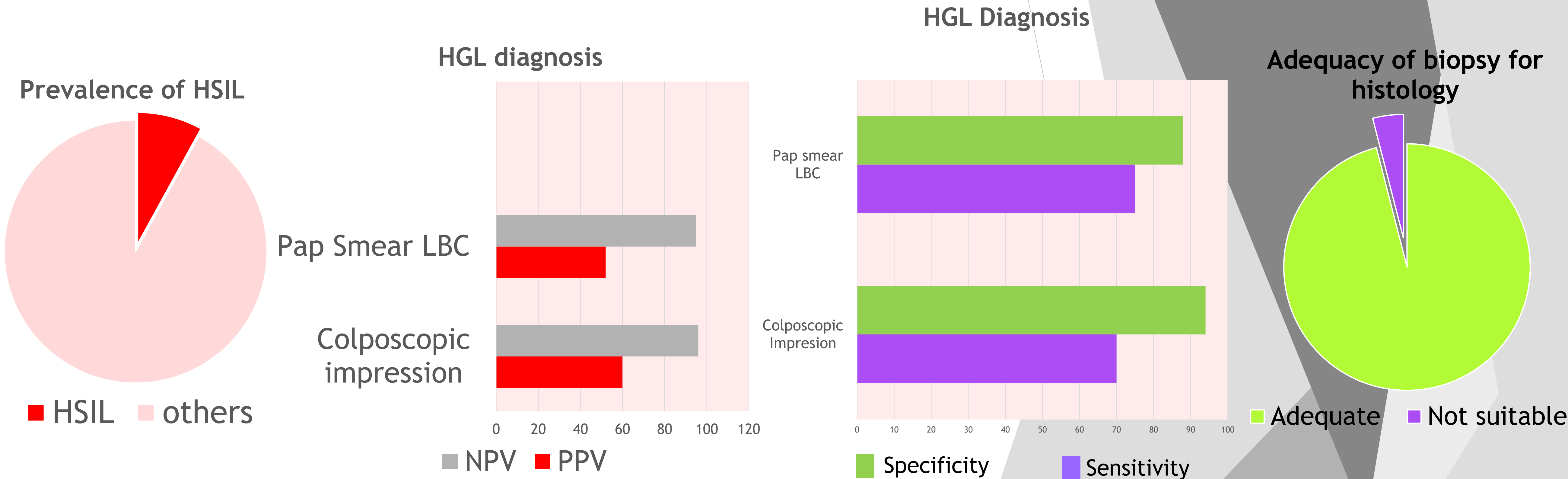
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Objective: To determine the prevalence of high grade cervical intraepithelial neoplasia (HSIL); compare HSIL liquid based cytology (LBC), including high risk Human Papilloma Virus (hrHPV), with the colposcopic impression (CI) and the resultant pathological diagnosis; and to assess the adequacy of cervical biopsies performed.

Design: Retrospective data collection, from the colposcopy clinic at Sheikh Shakhbout Medical City-Mayo clinic.

Method: Records of 108 women with abnormal smears and hrHPV, were reviewed from August 2020 to August 2021, and studied for demographics, LBC results, HPV status, transformation zone (TZ) type, CI, cervical biopsy adequacy, and histopathology results. Pregnant, post treatment cases and TZ3 were excluded. Results were reviewed as per LAST international terminology, HSIL reflecting High Grade (HG) pathology. Prevalence of high grade (HG) pathology, was calculated from the total number of women with abnormal cytology referred for colposcopy. For Accuracy; Sensitivity, Specificity, Positive and Negative Predictive Values (PPV and NPV) were calculated for HSIL LBC-hrHPV, and HSIL colposcopy impression, using the histopathology as the gold standard. For Adequacy; the percentage of inadequate biopsies was calculated from the total number of biopsies. Results were compared to Diagnostic Standards for colposcopy NHS cervical screening programme Guidance, UK. The PPV of a colposcopic diagnosis is dependent on the prevalence of the disease in the referred population; highest in HG-cytology. The PPV should be at least 75% for a CI of a HG-lesion for individuals referred with HG-cytology. Of all biopsies taken $\geq 90\%$ should be suitable for histological interpretation.

Results: The prevalence of HSIL (HG) Cervical pathology was found to be 8% of smears referred for colposcopy. PPV of HG colposcopy diagnosis, was found to be 60%, with NPV of 96%, specificity of 94%, and sensitivity of 70%. For abnormal Pap smear LBC, with hrHPV, the PPV was 52%, NPV of 95%, specificity of 88%, and sensitivity of 75%. Of all biopsies only 4 were not suitable for histological interpretation, giving 96% adequacy.



Conclusion: Accuracy of our CI to diagnose HG cervical pathology (CP), was less but compared close to standards of NHS CSP Guidance, because our disease prevalence is low. Colposcopic impression was more accurate than cytology in detecting HG pathology. Adequacy of our biopsies of 96% compared well to NHS standards requiring more than 90%. Our colposcopy services compare well with international standards; however, cervical smear carries a low PPV and sensitivity. We recommend larger studies and HPV as primary screening.