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MOLECULAR DIAGNOSTICS TO DETECT HPV-ASSOCIATED CERVICAL CANCER: A SYSTEMATIC REVIEW

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Infection with human papillomavirus (HPV) is recognized as the main causative agent for cervical cancer and is responsible for almost all cervical cancer cases globally, particularly those linked to high-risk HPV types such as HPV-16 and HPV-18. Early and accurate testing is essential to avoid the development of cervical cancer from its precursor lesions. The main topic of this systematic review is to assess recent advances in molecular testing technologies aimed at diagnosing cervical cancer linked to HPVs through nucleic acid amplification tests, protein-based tests, and other innovative methods. Recent findings from various scientific researches clearly indicate that molecular testing is far more sensitive and reproducible than the traditional methods of cervical cancer screening based on cytological testing. Innovations like PCR-based testing, liquid biopsy, and CRISPR technologies are promising technologies used for enhancing early cervical cancer testing, especially for developing nations.