

Experimental Biology

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Is HPV Vaccination Secure Protection of Women Without or With Cytologic Cancer Screening

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Today, millions of girls around the world receive vaccination against HPV hoping vaccines will protect them from the risk of getting cervical cancer if having sex with HPV positive partners.

But, is it true? And, if it is true, how long the protection lasts?

This dilemma has controversial documented data. Therefore, manufacturer of HPV vaccines and health care providers in charge of cervical cancer prevention, advertised, via guidelines, testing for antibody titer and for cytopathological changes of cervical specimen – similar to Pap test. The open dilemma is about scheduling from 1- to 5-year periods between screening. Many studies have been published and supported with statistical data, but, indeed, this is only a guessing game.

The Pap test was introduced as screening for lesions which can be developed into cervical cancer and the suspect lesions were recommended for colposcopy/biopsy/histology – finally to early removal of those lesions. This removal of lesions, not the Pap test alone, has interrupted the natural history of cervical cancer. The definition “cancer is unstoppable growth of malignant cells” was replaced with “no lesion – no growth of cancer.”

HPV vaccine protection is specific for few strains of HPV virus which have been found in developed cervical cancers. Cervical cancer has a much wider palette of risk factors including other HPV strains, and other promoters of malignancy [3]. Because of that, the cytopathologic screening must be kept regularly active. This fact returns us to the old concerns: Pap test staining has inherited 20% false negative readings. The recommended MEDYKO™ composite biomarker [1-3] consists of metabolic biomarker, “ME” (increasing sensitivity to include BCC category), “DY” dysplastic changes (defining the level of clinical diagnosis), and “KO” (koilocytes, HPV disease indicating worse prognosis).

All three markers are visible on one slide reducing false negative results of Pap test, and false positives of HPV infection testing. All are amenable for digital communication between POC and remote medical centers. Further, the specimen can be obtained at home with the Self-sampling Kit what increases the outreach and opens the opportunity for annual testing.

The concept has been tested, confirmed, but still, waits for mass applications.

Conclusion: Cytological testing is still necessary for HPV vaccinated women, but Pap tests needs improvement as MEDYKO™ described above, annual specimen sampling, collection of specimens in scattered POC, evaluation in remote specialist centers and early, the same day, intervention for removal of lesions if necessary.

REFERENCES:

1. The FASEB Journal, 2016; 30 (1) 696.5
2. The FASEB Journal, 2017; 31(1) 807.9
3. Markovic O. et al. What Every Woman Should Know About Cervical Cancer. Springer, 2017.