The Lancet: Primary HPV screening provides 60–70% greater protection against invasive cervical cancer than cytology-based screening

Primary screening for HPV (Human Papilloma Virus) provides 60–70% greater protection against invasive cervical cancer than the cytology-based ('smear-test') screening currently used in most countries where cervical screening is available, according to new results published in ***The Lancet***.

Cervical screening aims to prevent invasive cervical cancer by detecting abnormalities in a woman's cervix which can be a precursor to cancer. In cytology-based screening, the cells taken during the test are examined under a microscope to detect changes. In HPV-based screening, the cells are initially tested for the presence of HPV, a common, and usually harmless, viral infection which can in some cases cause the abnormalities in the cervix which can precede cancer. In both cases, if cell changes or HPV are detected, the patient is notified, and undergoes further screening and examination, followed by treatment, if needed.

A team of researchers led by Dr Guglielmo Ronco, from the Center for Cancer Epidemiology and Prevention in Turin, Italy, analysed data from four major European trials in England, Italy, the Netherlands, and Sweden [1] which compared HPV-based screening with cytology-based screening. In all of the trials, researchers examined the effectiveness of HPV or cytological screening in detecting precursors for treatment to prevent progression to cancer. However, until now, no study could provide reliable estimates of the effectiveness of HPV versus cytological screening in protecting against invasive cervical cancer.

By following-up for an average of 6·5 years more than 175 000 women aged 20–64 who participated in the four trials, the researchers were able to show that detection of invasive cancers was similar between screening methods for the first 2·5 years after the trials began. Thereafter, fewer cancers were detected in women who had undergone HPV screening, with the researchers calculating that HPV-based screening protected 60–70% more women from invasive cervical cancer than did cytology-based screening.

Despite the fact that each of the trials included in the analysis used different screening protocols, the efficacy of HPV testing was not notably different across the trials. Moreover, the results show that increased protection against invasive cervical cancer was especially notable in women aged 30–35 years, and HPV screening every 5 years was most protective against invasive cancers of the cervix, compared with cytology done every 3 years.

According to Dr Ronco, "Until now, there have been no direct estimates of the relative efficacy of HPV-based versus cytology-based screening for prevention of invasive cancer in women who undergo regular screening, of how variables like age affect this efficacy, and of the duration of protection. Our analysis shows that HPV-based screening appears to prevent more invasive cervical cancers than does cytology, and on this basis, we recommend implementation of HPV-based cervical screening with triage from age 30 years at intervals of at least 5 years. Triage means that HPV positive women have a follow-up cytology test (reflex cytology) and only those with abnormal cytology or persistent HPV infection go on

to have colposcopy (a close examination of the cervix using a magnifying instrument called a colposcope)."*

In a linked Comment, Sandra Isidean and Eduardo Franco of McGill University in Montreal, Canada, write that, "The future of cervical cancer screening in high-resource settings will most probably incorporate primary HPV testing, a science-driven change in strategy that particularly befits the post-HPV vaccination era. With economies of scale that come with broad implementation of primary HPV testing (which will foster competition among various HPV tests) and the lengthening of screen intervals, cervical cancer screening might end up costing countries less money while providing greater safety than with conventional cervical cytology. To reap the benefits of this implementation, however, nations will need to consider important logistical challenges, including: settling on the type of HPV screening test to be used; ascertaining appropriate screening ages and intervals; defining triage and management policies for HPV-positive women; and ensuring quality of and adherence to revised policies."

The results will be presented at EUROGIN 2013, one of the largest fora worldwide for clinicians interested in cervical cancer control and HPV-associated diseases.

NOTES TO EDITORS:

[1] The trials included in the analysis were: Swedescreen (Sweden), POBASCAM (The Netherlands), ARTISTIC (England), and NTCC (Italy).

* Quote direct from author and cannot be found in text of Article

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For full Article and Comment, see:
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