HPV vaccine reduced cervical abnormalities in young women

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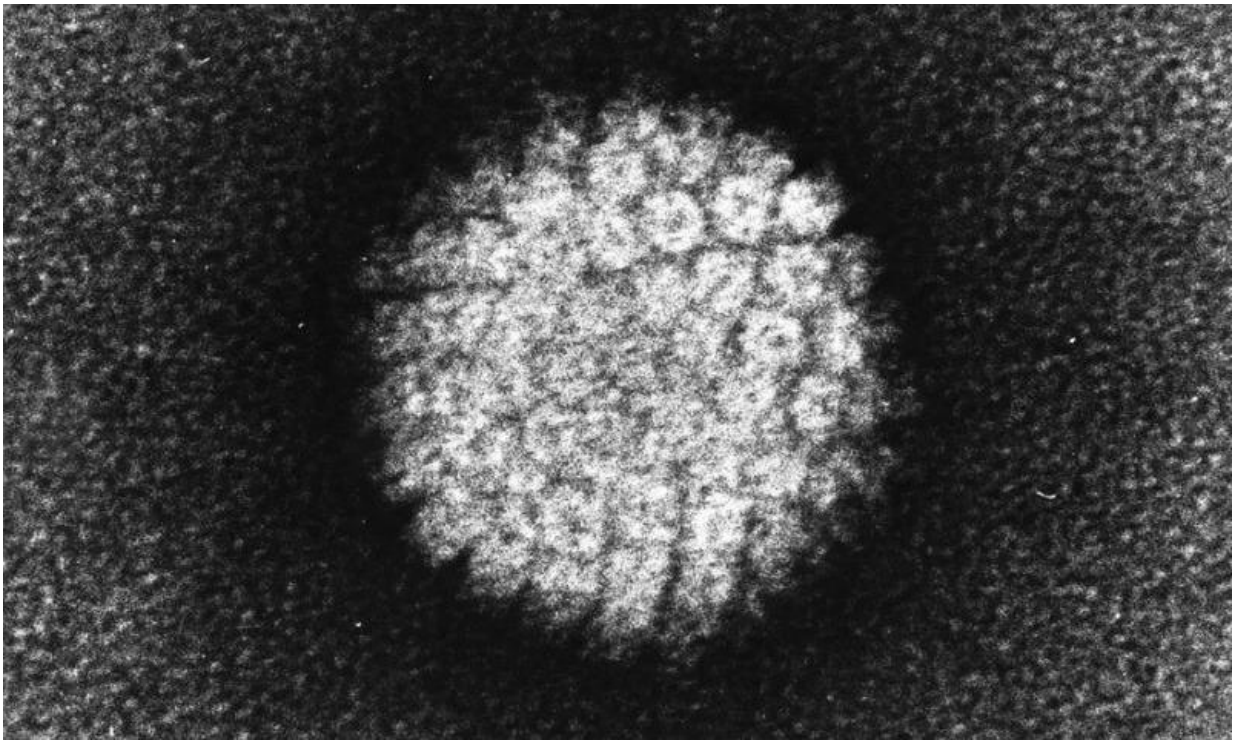

Electron micrograph of a negatively stained human papilloma virus (HPV) which occurs in human warts. Credit: public domain

Young women who received the human papillomavirus (HPV) vaccine through a school-based program had fewer cervical cell anomalies when screened for cervical cancer, found a new study in *CMAJ* (*Canadian Medical Association Journal*).

"Eight years after a school-based HPV vaccination program was initiated in Alberta, 3-dose HPV vaccination has demonstrated early benefits, particularly against high-grade cervical abnormalities, which are more likely to progress to cervical cancer," writes Dr. Huiming Yang, Medical Officer of Health and Medical Director, Screening Programs, Alberta Health Services, Calgary, Alberta, with coauthors.

Alberta has both a school-based HPV vaccination program and a population-based screening program for cervical cancer. In 2008, the province introduced HPV vaccination for Grade 5 girls (aged 10-11) and a 3-year catch-up program for Grade 9 girls (aged 14-15); in 2014, it was expanded to include boys. The program provides 3 doses of the vaccine that protects against two strains of HPV, which account for 70% of all cases of cervical cancer.

To determine whether HPV vaccination had an impact on Papanicolaou (Pap) test results, Alberta researchers looked at data on the first cohort of women who participated in both the school vaccination program and cervical cancer screening. The 10 204 women in the study population were born between 1994 and 1997 (aged 18 to 21 years) and lived in the province before 2008.

Of the total, 1481 (14.5%) were cases—that is, they had cervical anomalies detected during screening—and the remaining 8723 (85.5%) were controls—with no cervical abnormalities detected. Among cases, most (1384, 93.5%) had low-grade cervical abnormalities, and the remaining 97 (6.5%) had high-grade abnormalities.

More than half of the study participants (56%) were unvaccinated, and 44% had received 1 or more doses of the HPV vaccine before being screened for cervical cancer. Of the women who had been vaccinated, 84% received 3 or more doses. Among the unvaccinated women, 16.1% had cervical abnormalities, compared with 11.8% in the fully vaccinated

group.

The authors note that effective HPV vaccination with broad uptake will affect the harms and benefits of cervical screening.

"With population-based HPV vaccination, guidelines for cervical cancer screening may need to include a later age for screening initiation age and/or a longer interval between screenings," they write.

The authors hope that their findings and future research will lead to improved primary and secondary prevention efforts, with integration of HPV vaccination and cervical cancer screening programs.

More information: *Canadian Medical Association Journal*, www.cmaj.ca/lookup/doi/10.1503/cmaj.151528

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