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Human Papillomavirus Vaccination



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Sir

In disease control, prevention is superior, safer and generally more cost-effective than treating illness after it develops¹. The recent political storm re the deferral of universal human papillomavirus (HPV) vaccination in adolescent girls prompts a review of the current evidence and pros and cons of its implementation in this country.

HPV is a double-stranded DNA virus with over 100 types identified with 15-20 known to be oncogenic. It is estimated that at least 70% of people who are sexually active will acquire this virus during their lifetime^{1,2}. It is acquired mainly by sexual contact and most HPV infections are transient and mild. However about 10% will develop chronic HPV infection that may progress to precancer and cancer. HPV types 16 and 18 are the most prevalent oncogenic strains of the virus with HPV 16 accounting for more than 60% of all cervical cancers and HPV 18 accounting for another 10%³. These high risk types of HPV cause cervical cancer, cancer of the vulva or vagina and cancer of the penis or anus. Cervical cancer is the most important manifestation of genital HPV infection and is one of the leading causes of cancer mortality in women worldwide. In Ireland there are approximately 180 new cases annually and about 80 deaths per year are due to cervical cancer. HPV is one of the main causes of cancer in women (11% worldwide and 16% in developing countries). The epidemiological link between HPV and cervical cancer is stronger than the link between cigarette smoking and lung cancer. Cervical cytology screening can reduce significantly the incidence of cervical cancer and its mortality but prevention of cervical cancer in particular is best done through vaccination. Condoms afford some protection against HPV transmission, although this protection is incomplete.

There are two vaccines available – a quadrivalent vaccine (Gardasil) which targets HPV 6, 11, 16 and 18 and a bivalent vaccine (Cervarix) which targets HPV 16 and 18 only³. Both are protective against cervical cancer and the quadrivalent vaccine protects also against genital warts (which are responsible for 1/3 of all sexually-transmitted diseases).

The rationale for vaccinating young adolescent girls is that this confers maximal population health benefit and this is a well defined population with whom there is ready contact through schools⁶. Routine vaccination with 3 doses of the HPV vaccine is recommended in girls 11-12 years of age. The issue as to whether boys should also receive HPV vaccination is still under debate. Males are certainly at risk of HPV infection causing genital warts and anal cancer and HPV transmission is primarily between males and females. The debate will rage on but it seems likely that males will also be included in universal vaccination programmes.

A programme of HPV 16 and HPV 18 vaccination at 11-12 years of age, coupled with triennial screening starting at 25 years of age, will decrease the lifetime risk of cervical cancer by 95% and, without question, is the most cost-effective strategy^{4,5,7}.

Universal HPV vaccination is now offered in most EU countries and we need to ensure that this deferral is as short as possible as HPV vaccination represents the most important breakthrough in cervical cancer prevention. A short deferral is regrettable – a long term delay would, in my view, be inexcusable.

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