

Preventing cervical cancer

Every month in *Australian Family Physician*, and in every other medical journal in the world, there are discussions of new information; descriptions of innovations; or changes in the way we view health and illness that cumulatively or individually will make a positive impact. It is not often that the potential impact appears so obvious and clear cut as the development of an effective primary prevention vaccine for cervical cancer. While editing this month's articles, I was able to tell my 13 year old daughter and her friends about a vaccine that would dramatically reduce the risk that they would develop cervical cancer. On a world scale, it has the potential to prevent premature death and reduce morbidity for millions of women.

In Australia about 700 women per year are diagnosed with cervical cancer (an incidence of around 7 per 100 000) and there are over 200 deaths.¹ By world standards these rates are low and this is largely attributable to our successful cervical screening program. As Heley states in her article, over 85% of the Australian women who develop cervical cancer today have had inadequate Pap test screening.² In developing countries where screening is largely unavailable, the incidence is well over 30 per 100 000 and there are 0.25 million deaths per year from cervical cancer.

We now understand that virtually all cervical cancer is attributable to HPV infection, with HPV16 and HPV18 accounting for 70% of cancers. We also now understand that HPV infection only leads to cancer in a small percentage of cases but because of the prevalence of HPV, the absolute numbers are significant. Most women will clear HPV within a couple of years and for those who do not there is a lag time of about 15 years between infection and cancer. This information will enable secondary prevention strategies to be fine tuned to more effectively identify, monitor and treat those women at highest risk, and to subject those women at lower risk to less frequent intrusive and anxiety provoking procedures.

At the 2006 RACGP Annual Scientific Convention in Brisbane, Dr Ian Frazer presented a keynote address – 'Cervical cancer prevention in the 21st century'. This was a fascinating walk through the role of HPV in cervical cancer and the development and efficacy of the HPV vaccine. (For those of you who were unable to attend an MP3 file and copy of the powerpoint presentation is available on the RACGP website at www.racgp.org.au/asc2006/keynotes/fraser.)

Dr Frazer also presented the wider perspective of the

potential for vaccines for other cancers. He told us that infection causes about one-quarter of all cancers, with hepatitis B virus (HBV), HPV, hepatitis C virus, Epstein Barr virus (EBV) and *Helicobacter pylori* being the biggest culprits. Immunisation to prevent infection related cancers are available now for HBV and HPV, with immunisation for hepatitis C, EBV and human immunodeficiency virus (HIV-1) in development and *H. pylori* and herpes simplex virus (HSV) in preclinical stages. Immunisations to treat infections and cancer are in development for HBV, hepatitis C, HPV and HIV-1, but are probably a number of years away yet. For the HPV preventive vaccine itself the issues for the future include:

- determining the duration of protection – Frazer estimates this to be 10 years
- determining the optimal deployment of the vaccine to the developing world as well as wealthy developed countries such as our own. Similar cost and access issues apply as for drugs for HIV treatment in developing countries
- developing cheaper, more easily manufactured vaccines, and
- developing broader spectrum vaccines.

There are challenges away from the research labs as well. Fortunately the Australian government has agreed to fund HPV vaccine for young women. It is important that we continue to vaccinate girls at a young age, not only because the vaccine needs to be given before exposure to HPV, but also because the best antibody response occurs in the 12 years and under age group.

Despite the publicity surrounding the launch of the HPV vaccine, many of the young women I speak to in my consulting room are unaware of HPV, its associated risks of cervical cancer or the HPV vaccine. There is considerable education that needs to be undertaken, both one-on-one between GPs and their patients as well as at a public health promotion level.

Although there remain many challenges in cancer prevention, diagnosis and treatment, it is an exciting time... fortunately for my daughter's cohort the future looks much brighter.

References

1. Australian Institute of Health and Welfare. Cervical screening in Australia 2003-2004. Canberra: AIWH Cat no. CAN28 Published 22 August 2006. Internet only www.aihw.gov.au/publications/index.cfm/title/10359.
2. Heley S. Pap test update. Aust Fam Physician 2007;36:112-5.



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