Adult immunisation – an overview

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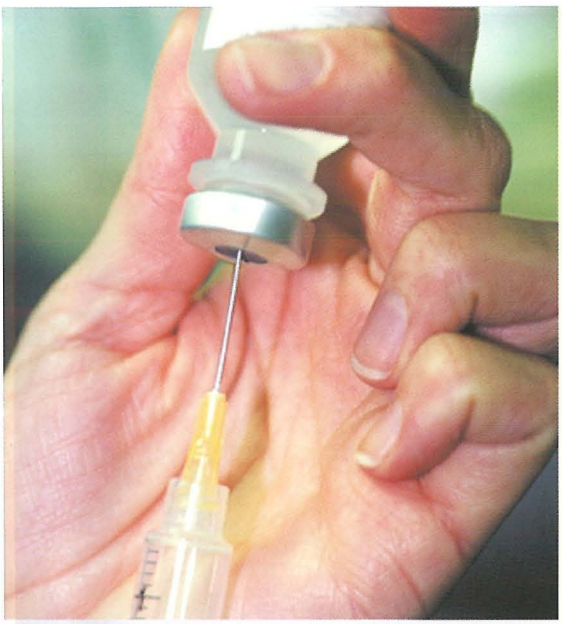

This year in particular saw the potential influenza pandemic fuel the uptake of immunisation against annual influenza. Judging from reports that both public and private sector vaccines ran out beforehand, the uptake must have been higher than usual, although no official reports are available to date. There were no significant reports of influenza illness in the community probably as a result of this.

TheSynapse

The benefits of this exercise however went beyond. The logistics of an eventual possible nationwide pandemic influenza immunisation have been made easier, and the general population have been made aware of the benefits of this particular immunisation. This should inevitably create ripple effects into the potential benefits of other vaccines amongst the general population, aided by increased awareness amongst physicians.

Adults who did not contract chicken pox as children are often faced with the prospect of being exposed to this virus when their children or other contacts contract it. In adults the risk of developing varicella pneumonia is higher, especially in pregnant females, smokers and immunosuppressed patients. One would consider anti-viral treatment in adults, but pregnancy poses a particular challenge. The risk of foetal malformation increases if the illness develops in the first trimester, but the risk to the mother from the disease is greater in later pregnancy. Thus weighing the benefits and risks of treatment revolves mainly around these facts.

These difficult situations could be easily avoided if individuals are immunised. The two dose vaccination schedule in adults provides about 75% protection. Being a live-attenuated virus vaccine, there is a potential risk of transmission to non-immune close contacts but this risk is very small. Non-immune health care workers and women of child-bearing potential should be offered the vaccine. Immunosuppressed patients cannot have live virus vaccines, but their non-immune contacts can. A vaccine-associated rash may develop in 10% of adults, and the vaccine virus strain may establish latent infection and reactivate as zoster at a later stage, but this is uncommon.

Pneumococcal vaccine is probably under-prescribed. Besides being one of the most commonly reported cause of bacteraemia and meningitis, *streptococcus pneumoniae* frequently causes pneumonia and exacerbations of chronic obstructive pulmonary disease. Since 2003, pneumococcal vaccine has been recommended for adults >65 years in the UK. Other immunocompetent adult groups who should receive it include those who are at increased risk of pneumococcal disease or its complications because of chronic illnesses like chronic respiratory disease, chronic heart disease, chronic liver disease, diabetes, individuals with cochlear implants and individuals with the potential for cerebrospinal fluid leaks.

Immunosuppressed patients with asplenia or dysfunction of the spleen, chronic renal disease, HIV, and long term use of steroids, should also be recommended for this vaccine, although the antibody response may be suboptimal. A good time to consider or plan immunisation would be during the annual flu vaccination. The polysaccharide vaccine is effective in those >2 years old (in younger children, the conjugate vaccine is used). Re-immunisation is not routinely offered but this is recommended in certain high risk groups like asplenic patients after five years.

The hepatitis vaccines may be other examples of underutilised vaccines. The commonest indication for hepatitis A vaccine would be for contacts of an index case where the diagnosis is made within one week of the onset of symptoms. However this vaccine should also be considered in cases of chronic liver disease (including hepatitis B and C infection), intravenous drug users, men who have sex with men, travellers to certain risk countries, persons with clotting disorders receiving regular blood products, and in potential occupational exposure as in healthcare or sewage workers. It is highly immunogenic and efficacious and booster doses after the primary two dose immunisation need not be given before 20 years. A combination vaccine with hepatitis B is available and sometimes, it would be more convenient when both need to be given.

Since July 2002, hepatitis B vaccine is being offerred to all children in Malta during the fifth year. Older persons would have missed this and so need to be assessed for indications for the vaccine. Potential candidates include intravenous drug users and their close contacts, persons with multiple sexual partners, close family contacts of a hepatitis B carrier, individuals receiving regular blood or blood products, patients with chronic renal or liver disease, persons in certain institutions like prisons, travellers having high risk behaviour going to high risk areas, and individuals at occupational risk like health care workers. Pregnant hepatitis B positive females would need to immunise their babies at birth, along with hepatitis B immunoglobulin in some instances. In the case of accidental needle stick injury where the status of the blood on the needle is unknown, a risk assessment will need to be done prior to immunisation.

Occasionally, situations arise where the routine immunisation status of an adult individual is unknown, and the individual comes forward to have these vaccines. The more important vaccines to be given would be three doses of tetanus, diphtheria and inactivated polio vaccine with one month in between, with the fourth dose given one year later. Also, two doses of MMR are needed with three months in between immunisations.

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Some would recommend meningococcal vaccine as well, especially in persons over 25 years of age and university attendees. BCG is not usually recommended to persons aged over 16 years as the data for its effectiveness is not available. However, it may be recommended to high risk groups where risk of exposure is high.

Travel related immunisations have increased in proportion with travel to areas at risk of specific infections. This is especially important in travel to Africa, South-East Asia and South America but not exclusive to these areas. Some travellers to forests in Northern Europe for example, may need cover for tick-borne encephalitis. It is thus important to consult the latest travel advice according to the destination and planned activities in that country.

The challenges of the future include vaccines for HIV and hepatitis C. Up till now, these remain elusive, although graded successes are recorded in both fields. One of the latest HIV vaccines on trial showing promise uses a disabled form of an adenovirus to ferry three specific HIV genes into the body. Other organisms being targeted include malaria and leishmania, now that both their genomes have been sequenced.

Some vaccines may protect against tumour development. The most well known is hepatitis B vaccine protecting against hepatoma. Other potential targets include papilloma virus, Ebstein-Barr virus, and human T-cell lymphotropic virus I and II. Vaccines against diseases which are non-communicable, like Alzheimer's disease, have also shown some promising results in animal studies.

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The Scars of Venus

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Details of VDRL/TPHA serology (2004 cases)

Patient	VDRL	TPHA
1	1:32	1:2560
2	Negative	1:320
3	Negative	1:160
4	Negative	1:320
5	Negative	1:80
6	Negative	1:320
7	1:8	1:5120
8	1:8	1:40960
9	1:16	1:40960
10	1:4	1:40960

It is still common practicse to screen for syphilis with only a VDRL. This can often be negative, in both early as well as late disease. The international guidelines are to use VDRL and TPHA/or EIA. The VDRL, when positive is useful to monitor treatment.

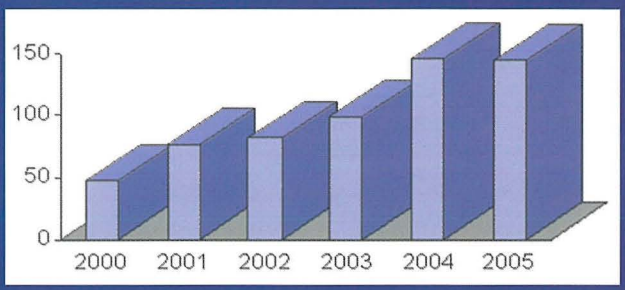
5 of the patients had a persistently negative VDRL, and the diagnosis would have been missed.

Clinicians need to be made aware of the reappearance of this insidious disease, and to screen appropriately.

4. ANO-GENITAL WARTS

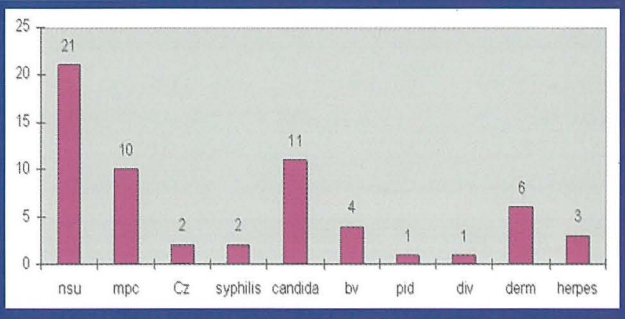
There were 145 cases of ano-genital warts which is a 32% increase over 2003.

Ano-genital warts (first presentation) continue to be a significant proportion of the total number of diagnoses (14%). The increase over the years has been maintained.



Ano-genital warts 2000-2005

Genital warts are associated with other significant pathology in 22% of cases. In this series the following additional (and unsuspected) conditions were found.



Ano-genital warts- associated pathology

This again highlights the importance of fully screening all new presentations of genital warts, before embarking on ablative therapy.

Part II will be published in the next issue