NHSGG and CLYDE NEWSLETTER

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Public Health Protection Unit (PHPU) 0141 201 4917 www.nhsggc.org.uk/phpu

Volume 5 Issue 11 November 2006

Human papillomavirus vaccine

Gardasil™ (Sanofi Pasteur MSD) has recently become available as "the first vaccine that can prevent cervical cancer". This is because most types of cervical cancer are related to the Human Papillomavirus (HPV). However, it cannot prevent non HPV-associated cervical cancer or that associated with types of HPV other than 16 and 18. It cannot treat existing disease.

The recombinant quadrivalent vaccine contains 4 types of HPV (6, 11, 16 and 18). Therapeutic indications are for prevention of: -

- CIN (grades 1,2&3), VIN (2&3), VaIN (2&3)
- cervical cancer
- cervical adenocarcinoma *in situ*
- external genital warts (caused mostly by types 6 and 11)

These indications are based on efficacy in girls and women aged 9-26 years.

Before the introduction of any vaccine into the public health programme a review of its safety and efficacy is required. At present, the Joint Committee of Vaccination and Immunisation (JCVI) is undertaking a review of this new vaccine and the DOH/SEHD awaits its recommendation for a national policy. In the meantime, GPs are advised to wait before prescribing the vaccine.

Antiviral drugs and influenza

Currently, there is **no** indication for prescribing anti-flu drugs within the GG & Clyde area. Health protection Scotland (HPS) will advise all NHS Boards when surveillance data indicates significant levels of influenza infection within the community.

The Glasgow Formulary advice on prescribing anti-flu drugs is as follows :-

Oseltamivir – its use is subject to NICE Guideline nos 58 and 67 and is recommended for *prophylaxis* during a *proven outbreak* of Influenza A or B (in 'high risk' patients aged 13 yrs and over) and for *treatment* in 'at risk' adults and children (aged 1 yr and over) during a *proven outbreak* and given within 48 hrs of onset.

Zanamivir – its use is subject to NICE Guideline no 58 for the *treatment* of 'at risk' groups (in patients aged 12 yrs and over) when there is a *significant level* of influenza in the community and is given within 48 hrs of onset.

Note: The PHPU will formally notify GPs and community pharmacists when there is a *significant level* of flu in the community (>50 cases/100,000).

Typhoid fever and vaccine

Typhoid fever is caused by *Salmonella typhi* and is a notifiable disease. Infection occurs worldwide and is associated with poor sanitation. Most UK cases are travel –related and often linked to the Indian subcontinent

Since July of this year, the Public Health Protection Unit has been notified of three cases of travel-related typhoid fever. This resulted in significant public health action as all of the cases had close contacts in high-risk groups who required formal exclusion from their place of work and close follow up.

The illness begins with fever and rigors may occur. Patients complain of headache, cough, malaise, myalgia and may be constipated. Later in the course of the illness diarrhoea, abdominal tenderness, vomiting, delirium and confusion may occur.

Vaccination is recommended for travellers to endemic countries, including ethnic minorities visiting their country of origin but travellers should also be reminded to maintain a high standard of hand hygiene. Immunisation is also advised for laboratory workers who handle faecal specimens. A booster dose is required every three years. Although young children may show a suboptimal response to the vaccine those between 12 and 18 months should be immunised if the risk of typhoid fever is considered high.

Flu-vaccine dose for children

The DoH recommends that 'at risk' children aged between 16 and 35 months receive either 0.25 **or** 0.5ml of flu vaccine, depending on manufacturer's **S**ummary of **P**roduct **C**haracteristic (SPC), repeated 4-6 weeks later if receiving flu vaccine for the first time. Please note that the dose does not depend on the weight of the child.

Hep B 'at risk' siblings

Health visitors of Hep B 'at risk' babies are asked to check the Hep B immunisation status of older siblings. The Hep B vaccine course should be started in any unimmunised siblings and, where clinically indicated, a referral made to Dr Rosie Hague at RHSC, Yorkhill. However, please check with PHPU staff before referring. (Recommended regime: 0, 1, 2, booster at 12 months).

Hib/MenC and adults

Please note that the new Hib/MenC vaccine, Menitorix®, can be used, where indicated, in adults (e.g., asplenia).

Meningococcal season

Influenza notifications usually rise in winter with an associated rise in reports of meningococcal disease. Where meningococcal disease is suspected, GPs should administer a single IV/IM dose of benzylpenicillin whilst arranging the patient's rapid admission to hospital. This is the official recommendation of the Chief Medical Officer.

Benzylpenicillin dosage

Adults or children aged 10 years or over: 1.2g
Children 1-9 years: 600 mg.
Children under 1 year: 300 mg.
Benzylpenicillin should only be withheld if there is a known history of anaphylaxis following previous penicillin administration, however, GPs do not need to carry an alternative antibiotic [1].

Updated guidelines

The Health Protection Agency (HPA) has recently published updated guidelines[1] for the public health management of meningococcal disease. These contain guidance on the immediate management of suspected meningococcal disease and the identification and management of contacts.

Chemoprophylaxis

The aim of antibiotic prophylaxis for close contacts is to reduce the risk of invasive disease by :

- eradicating carriage from established carriers who pose a risk of infection to others
- eradicating carriage from those who have newly acquired the invasive strain and who may themselves be at risk of invasive disease

Rifampicin, licensed for this purpose, is given to the close contacts i.e. those in the same household as the index case and any intimate kissing contacts. However, if there are linked cases at institutions such as universities, nurseries or schools, wider prophylactic cover may be recommended. Please note that prophylaxis is not always effective in preventing secondary cases so close contacts should also receive information on the signs and symptoms of the disease.

Rifampicin dosage (twice daily for 2 days)

Adults and children over 12 years: 600mg
Children 1-12 years: 10mg/kg body weight
Infants under 12 months: 5 mg/kg body weight

Oral ciprofloxacin or IV/IM ceftriaxone are both effective at eradicating meningococcal carriage and can be used as alternative agents to rifampicin[1]. However, rifampicin is the only antibacterial agent licensed for this purpose. The updated meningococcal guidelines[1] recommend that ciprofloxacin is suitable for use in adults and children aged two years and over. Information on dose regimes for ciprofloxacin and ceftriaxone can be found in the BNF and the BNF for children.

[1] http://www.hpa.org.uk/infections/topics_az/meningo/meningococcalguidelines.pdf

MMR – new research, old news

In 2002, Dr John O'Leary's group in Dublin reported finding measles virus in the intestine of children with autism and bowel problems. Andrew Wakefield, working with Kawashima et al in Japan, had already reported finding measles virus in blood cells in similar children. Both studies fired up the anti-MMR movement and as a result worried parents decided either not to vaccinate or to opt for single vaccines.

A major paper recently published in the leading academic journal Pediatrics[1] strongly suggests that the earlier results were false positives. The media has largely ignored this study although Ben Goldacre wrote a good article in the Guardian (14/10/06). D'Souza et al replicated the earlier experiments very closely in 54 children with autism spectrum disorder (ASD) (80% also had gastrointestinal symptoms), and 34 controls. All but 6 had received the MMR vaccine (51/54 ASD cases and 31/34 controls). Peripheral blood mononuclear cells (PBMCs) were isolated from the 88 children.

All these studies used PCR. Although real-time PCR is regarded by many as the gold standard for the detection of microorganisms in human disease, the technique is subject to contamination and false-positive results. The optimal use of reagents such as UNG can guard against this and the new study used 50-100 times more UNG than the original O'Leary team to prevent contamination. The researchers were also careful to use the very same primer sequences for the measles virus genes as their predecessors.

The real-time PCR assays based on previously published primers gave rise to a large number of positive reactions in both autism spectrum disorder and control samples. However, almost all the positive reactions in these assays were eliminated by evaluation of 'melting curves' and amplicon band size. The amplicons for the remaining positive reactions were cloned and sequenced. No sample from either autism spectrum disorder or control groups was found to contain nucleic acids from any measles virus gene. Furthermore, there was no difference in anti-measles antibody titres between the autism and control groups

The authors conclude that there is good reason to suspect that the earlier studies produced false positive results because of suboptimal contamination control and because the O'Leary primers can accidentally amplify bits of normal human RNA. This data together with the epidemiological evidence demonstrate that arguments against vaccinating children with MMR are not defensible on scientific grounds.

[1] *No Evidence for Persisting Measles Virus in Peripheral Blood Mononuclear Cells from Children with Autism Spectrum Disorder Pediatrics 2006;118;1664-1675*

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