Public Health England

Surveillance of Post Herpetic Neuralgia (PHN)
In collaboration with pain clinics across England

1. Background

Shingles (Herpes Zoster) is an infection that is typically characterised by a unilateral vesicular rash involving a single dermatome due to the reactivation of latent varicella zoster virus infection (chickenpox). Once a person has recovered from chickenpox, the varicella zoster virus lies dormant in the nerve cells and can reactivate at a later stage when the immune system is weakened. Reactivation of the virus is thought to be associated with immunosuppression as a result of a decline in cell mediated immunity due to old age, immunosuppressant therapy or HIV infection[1.] Shingles can develop at any time following a chickenpox infection and can occur in individuals of any age. The lifetime risk of shingles is 23-30% and both the risk of developing shingles and its severity increase with age, with a 5-10 fold increase in the risk after the age of 60 years compared with during childhood.[(2-4)]

An important and significant complication of shingles is persistent pain extending beyond the period of rash known as post-herpetic neuralgia (PHN). PHN is specifically focused in the area affected by shingles and may be a constant burning, itching, stabbing or aching pain which is extremely sensitive to touch and is not routinely relieved by common pain killers. The risk and severity of PHN increases with age, with one third of those over the age of 80 experiencing intense pain and it is estimated that 14,000 cases of shingles will go on to develop PHN annually.

In 2010, the UK Joint Committee on Vaccination and Immunisation (JCVI) recommended that routine immunisation should be offered to adults aged 70 years to protect against shingles[5.] The programme was introduced in September 2013, with a phased catch-up campaign for those up to age 79. A single dose of shingles (herpes zoster) vaccine has been shown to reduce the incidence of shingles and PHN by 38% and 67%, respectively [6.] As the shingles vaccine is a live attenuated vaccine, it is contraindicated in those with primary or acquired immunodeficiency and those receiving immunosuppressive therapy

As with any new vaccination programme, good surveillance systems are required to monitor the impact and effectiveness of the vaccination programme. Whilst data on historical shingles incidence are captured by various sentinel primary care data sources, there are no established routine national surveillance systems of shingles or PHN. PHN can often be managed in primary care, but more severe cases may require referral to specialists in pain clinics. Partnerships are therefore being set up with pain clinics across England to collect information on attendance at pain clinics for PHN in order to monitor the impact and effectiveness of the shingles vaccination programme on the burden of PHN.

2. Study Objectives

1. Estimate the impact of the vaccination programme on PHN in the vaccine targeted age cohorts (those aged 70 and 79 years old on Sept 1st 2013)
2. Estimate the effectiveness of shingles vaccination against incident cases of PHN in the targeted Cohort.
3. Compare the severity of PHN in those vaccinated and those unvaccinated in the targeted cohort.

3. Methods

Case definition of Post herpetic neuralgia (PHN) - Nerve pain which persists for 3 months or more following the resolution of the shingles cutaneous eruption[8-10].

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a) Initial baseline information

An initial retrospective review of cases of PHN in those aged 70 years and above, who have attended participating pain clinics in England over the past year, will be conducted to obtain a baseline estimate of overall case numbers. Given the time lag to develop PHN and be referred to a pain clinic for specialist management, the data returns for the first two quarters of 2014 will provide additional baseline data as these individuals are likely to have developed shingles and PHN prior to the introduction of the vaccination programme. The size of each clinic will be estimated based on the overall annual attendance for any condition.

b) Data Collection Method

From 31st January 2014, Quarterly return forms will be sent to all participating pain clinics in England asking healthcare professionals if they have seen any cases of PHN in patients aged 70 years or older. The healthcare professional will tick either Yes or No and provide a minimum dataset where they have indicated seeing a case. This will include patient initials, age, gender, hospital number, clinician and pain clinic name in order to link this to a further enhanced questionnaire.

Any clinicians or healthcare professional who returns the card with a positive response will then be sent a more detailed PHN enhanced surveillance questionnaire for completion for each individual patient. These questionnaires will be returned to the Immunisation, Hepatitis and Blood Safety department, PHE Colindale for further analysis and collation of data nationally.

The data that will be collected will fall in to the following categories; *Demographic detail, Clinical details*, *Co-morbidities, Vaccination history, Pain clinic details.*

4. Reporting

The Immunisation, Hepatitis and Blood Safety department, PHE Colindale will produce reports on the evaluation of the vaccination programme. Information on PHN incidence and other data of interest on PHN will be provided as part of this reporting. These reports will be sent directly by PHE Colindale to the participating pain clinics.

The British Pain Society has endorsed the PHE proposal to establish a new surveillance system for PHN. PHE will liaise directly with each pain clinic to raise awareness and to encourage maximum participation and success of this surveillance system.

5. Governance

The proposed enhanced surveillance in conjunction with pain clinics in England is conducted as part of PHE obligations for protecting and promoting public health, and forms one aspect of the surveillance for the proposed herpes zoster vaccination programme, which is due to commence in Autumn 2013. All data collected will be held, processed and disposed of in accordance with relevant statutory and organisational requirements. The enhanced surveillance system will be reviewed on a regular basis and subject to established governance frameworks.

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6. References

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