

# **The Maltese Paediatric Association**

Working Group Report

## **INTRODUCING THE HEPTA VALENT PNEUMOCOCCAL CONJUGATE VACCINE IN THE ROUTINE IMMUNISATION SCHEDULE OF INFANTS IN THE MALTESE ISLANDS**

## Introduction

For the past 8 years the Committee of the Maltese Paediatric Association has always shown a strong commitment in promoting the standard of medical care available to all children in Malta and Gozo. To achieve these aims the MPA has lobbied endlessly to expand the childhood immunization programme by organizing academic meetings to help its members keep abreast with rapid developments in the field of infectious disease prevention while educating the public on the importance of vaccination.

The aim of this document is to review very briefly the current scientific knowledge on the prevention of pneumococcal disease in childhood. It is hoped that this document will be of value to the paediatrician and to other healthcare professionals particularly those in the public health sector.

## Disease Burden of *Streptococcus pneumoniae* (pneumococcus)

Diseases caused by the pneumococcus remain a major public health problem despite the advent of highly potent antibiotics. In 2005, the World Health Organisation published estimates that up to 1 million children under 5 years die of pneumococcal infections every year. Epidemiological studies in the Mediterranean (Italy and Israel) show that in developed countries most of the disease burden is carried by the elderly and by children less than 2 years of age.

## Efficacy of the heptavalent conjugate vaccine

The heptavalent conjugate vaccine is designed to protect children under 2 years by coverage of upto 80% of the serotypes associated with invasive disease in young children. The vaccine currently available is well tolerated, has a good safety profile and is highly immunogenic in all age groups. The vaccine also reduces nasopharyngeal carriage and has a secondary, albeit very important, beneficial effect on herd immunity. The vaccine offers about 90% protection against invasive disease in young children. This figure is less for protection against acute otitis media.

## Use of the conjugate vaccine in other countries

The United Kingdom introduced the vaccine on a national scale in January 2007 and the disease surveillance experts estimate that in the first year of its introduction, the life of at least 1 child was saved per week, not to mention the significant reduction in morbidity and serious long-term complications. The schedule adopted in the UK is given at 2, 4 and 13 month.

In the USA, the incidence of invasive disease caused by the respective seven serotypes used in the vaccine declined by 100% one year after the introduction of the vaccine in the national schedule. A reduction of 84% of all invasive disease in children under 2 years was recorded 2 years later. The effect on herd immunity was also noted, with a significant decline in the rate of invasive disease in the non-immunised population. The cost benefit of such an immunization programme runs in tens of millions of dollars per annum.

Other countries which have adopted the conjugate vaccine in their national schedule include Cyprus, Austria, Germany, Belgium, Italy, France, Greece, Norway and Luxembourg.

## Secondary Benefits of the conjugate vaccine

There are a number of secondary benefits arising directly from the implementation of mass immunization of young children: protection of the adult population at risk of invasive disease e.g. the elderly, a drop in antibiotic resistance of the pneumococcus, a reduction in the number of cases of acute otitis media, acute meningitis and pneumonia, the latter accounting for a reduced number of hospital admissions and bed occupancy.

## Position of the World Health Organisation

The WHO strongly advises countries to make it a priority to include this vaccine in the national immunization schedule after recognizing the heavy burden of pneumococcal disease in young children and the safety and efficacy of the conjugate vaccine.

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