Bexsero®: good for UK children, Novartis vaccines and a flat industry

LONDON, UK----26th March 2014----ExpertREACT. A pre-election U-turn by the UK JCVI gives Novartis vaccines and the industry a strong signal that continued new product innovation is a worthwhile investment

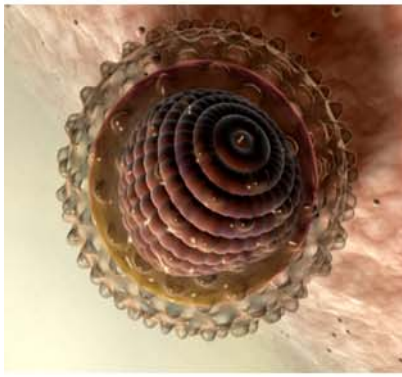
Recently the UK Joint Committee on Vaccines and Immunisation (JCVI) announced that it now recommends the inclusion of the *meningococcal* group B vaccine, Bexsero® (4CmenB) produced by Novartis Vaccines in the UK national immunisation programme (1). The vaccine will be given at 2, 4 and 12 months of age (2+1) to UK children provided the vaccine is negotiated at a cost effective price with the manufacturer. Presently the JCVI does not recommend 5 to 12 month catch up or adolescent vaccination due to lack of sufficient data and appropriate cost effectiveness modeling.

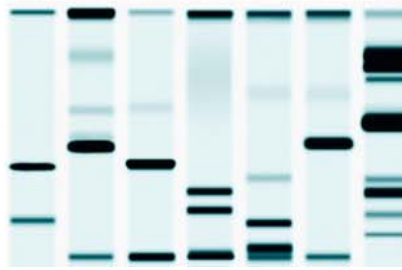
The JCVI's decision is a dramatic U-turn because back in June 2013 the same committee concluded that, based on the available evidence at the time, the vaccine was unlikely to be cost-effective *"at any price"* for infant and toddler immunisation. This decision caused considerable disappointment within the meningitis community of both healthcare professionals and families that had been affected by this terrible disease. Under considerable pressure the UK JCVI agreed to revisit their assessment because, among other things it was noted that the cost effectiveness model used lacked certain considerations with regard to the long-term financial impact of the disease.

The new JCVI analysis included changes:

- Revision of quality of life losses to include additional quality of life losses associated with the short term phase of IMD
- Inclusion in the base case model of a quality of life adjustment factor agreed by the JCVI in June 2013 (as opposed to this being accounted for in an additional analysis as had been done previously)
- An increased incidence of disease, considered by the Committee more representative of average incidence over a longer period
- Inclusion of new data on the rate of minor and severe sequelae following IMD
- Inclusion of a proportion of litigation costs associated with meningococcal disease in the NHS
- Inclusion of quality of life losses to family members

Once again the UK is leading the way in terms of large-scale implementation of preventative *meningococcal* vaccination. Back in November 1999, the UK was the first European country to introduce a serogroup C conjugate vaccine (2), which at the time was registering around 1500 cases/yr with 150 deaths mainly in adolescents and young adults. Presently, Bexsero® is not predicted to exert the same population wide effects as MCC due to it not being shown to significantly affect nasopharyngeal carriage of the bacterium, and so create herd immunity. However serogroup B disease still caused UK 33 deaths in the epidemiological year 2011/2012 (3) and has been responsible for sudden outbreaks in the US universities at Princeton and Santa Barbara where 14,000 people are estimated to have received the vaccine (4). Bexsero®, which has been available privately since 2013 has, according to Novartis shipped 500,000 doses to date, has also received positive clinical recommendations from authorities in the Czech Republic, Poland, Australia, Germany and Italy. In the latter two countries funding decisions have been made by the Italian Basilicata region for routine vaccination of infants and in Germany, more than 35 semipublic health insurance providers have stated they will voluntarily reimburse the vaccine for children aged two months to 18 yrs (4). Indeed, with the UK decision, finally it seems that Novartis could reap a financial return on its many years of hard work and investment. Now Bexsero® is highly likely to achieve global adoption the Novartis corporate parent may reconsider sales of its loss making vaccines unit. It had already by divested its blood transfusion diagnostics unit to Grifols of Spain for $1.67bn back in November 2013 (5).





CONTINUED…..

CONTINUED…..

VacZine Analytics previously forecasted 5-year cumulative global revenues for a *meningococcal* B vaccine to range between €1.4 bn (lo) to €5.7 bn from launch **(6)**. It now seems that these projections are more likely to be within the lower end of this range due to the proposed use of 3 rather than 4 doses, a lack of catch up in older children and no current proposal for adolescent vaccination. It appears reasonable, if not conservative that the UK programme could cost around £20 million per year if the vaccine was priced at £10 per dose (a premium to the estimated ex-factory price of $11 per dose for MCC). This seems value for money considering the UK government has earmarked £100m per year for extension of the influenza programme to 2 to 17 yrs (9m children). Influenza claims far more lives than meningitis and vaccination is shown to be cost-effective **(7)**.

Pfizer vaccines will undoubtedly be watching the UK situation closely, but are dependent on a market developing outside the infant/toddler indication which is more appropriate to the US situation. The company recently was granted breakthrough therapy designation by the US FDA and intends to Submit Biologics License Application for Bivalent rLP2086 to U.S. Food and Drug Administration by Mid-2014 **(8)**. The global roll-out of men B vaccines should give a flat vaccine industry a long-awaited boost.

References and Notes:

1) UK Joint Committee on Vaccination and Immunisation (JCVI). JCVI position statement on the use of meningococcal B (MenB) vaccine in the UK.Meeting minutes. Available at: https://www.gov.uk/government/publications/meningococcal-b-vaccine-jcvi-position-statement. Accessed March 2014

2) Trotter CL., et al. Vaccination against meningococcal disease in Europe: review and recommendation for use of conjugate vaccines. FEMS Microbiol. Rev. 31, 101-107 (2007)

3) Health Protection Agency: Invasive meningococcal infections laboratory reports, England and Wales by capsular group & epidemiological year, 1998/99-2011/12. Available at: http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317136087064 Accessed March 2014

4) Novartis news release. March 13, 2014. Available at: http://www.novartisvaccines.com/newsroom/media-releases/2014/Novartis_Bexsero_Australia_03-13-14.pdf. Accessed March 2014

5) Novartis news release. November 11, 2014. Available at: http://www.novartis.com/newsroom/media-releases/en/2013/1742082.shtml. Accessed March 2014

6) MarketVIEW: meningococcal serogroup B vaccines (CAT No: VAMV031), published by VacZine Analytics

7) UK government press release 25th July 2012. Available at: https://www.gov.uk/government/news/flu-vaccination-programme-extended-to-all-children. Accessed March 2014

8) Pfizer news release. March 20, 2014. Available at: http://www.pfizer.com/news/press-release/press-release-detail/pfizer_s_investigational_vaccine_candidate_bivalent_rlp2086_receives_u_s_food_and_drug_administration_breakthrough_therapy_designation_for_potential_prevention_of_meningococcal_b_disease. Accessed March 2014