An effective serogroup B meningococcal vaccine

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The paper “A review of vaccine research and development: Meningococcal disease” recently published in Vaccine [1] can be questioned on points about serogroup B meningococcal vaccines.

The authors declare that the Cuban vaccine against serogroup B has been used for epidemic control but it did not provide protection in children less than 4 years of age. On the other hand, they state that this vaccine was developed in collaboration between Finlay Institute and GSK.

With respect to those statements we would like to clarify the following:

1. VA-MENGOC-BC® is the trade name of the Cuban meningococcal vaccine against serogroups B and C. It was developed and it is manufactured by Finlay Institute.
2. A collaborative research was carried out between Finlay Institute and GSK to develop a different meningococcal B vaccine without serogroup C polysaccharide, based on Finlay Institute know-how and the experience obtained with VA-MENGOC-BC®.
3. VA-MENGOC-BC® is a bivalent vaccine of capsular polysaccharide of Neisseria meningitidis serogroup C, and outer membrane vesicles of serogroup B meningococcus that includes PorA, Por B, Opa, Opc, Tbp, NspA, high molecular weight proteins and other proteins [2].
4. This vaccine was licensed in 1989, and successfully used for epidemic control in Cuba, Brazil, Colombia and Uruguay [3–5]. It is important to highlight that some outbreaks were caused by different strains. A trial carried out by Cassio de Moraes concluded “the finding suggests that the vaccine can provide protection against some serogroup B meningococcal strains other than the vaccine type-strain” [6].
5. After mass vaccination campaigns, there was a rapid fall in the incidence of meningococcal disease in all age groups. The incidence rate of this disease in Cuba remains in 0.3 × 100,000 inhabitants during the last 4 years, lower than the preepidemic period.
6. Since 1991 VA-MENGOC-BC® has formed part of the Cuban infant vaccination schedule.
7. About the controversial point of view about hypothetical low protection induced below 4 years of age, many researchers, including those from Imperial College School of Medicine at London have proved that VA-MENGOC-BC® elicits a proper immune response even in infants [7].
8. This vaccine induces a T-helper 1 pattern with proper bactericidal and opsonophagocytic activity [8]. Other probable effector mechanisms include the interference with Fe metabolism and induction of mucosal immunity.

VA-MENGOC-BC® has been the only licensed vaccine against serogroup B meningococcus for many years, obtaining an important experience after more than 55 million doses have been applied with and excellent profile of reactogenicity, immunogenicity and efficacy.

References


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