SANOFI PASTEUR

September 24, 2012

Dear Health Care Professional:

Subject: Recall of Sanofi Pasteur Typhim Vi® (Typhoid Vi Polysaccharide Vaccine) Lots With Potentially Low Antigen Content

Sanofi Pasteur has voluntarily decided, as a precautionary measure, to recall several lots of Typhim Vi vaccine with potentially low antigen content.

This action was taken, in consultation with the US Food and Drug Administration, because of potential lower potency of the vaccine against typhoid fever due to a lower antigen content (ie, an antigen content below the official Pharmacopeia specification limit) in some lots of vaccine.

The list of lots being recalled in the US is in the recall packet.

- There is no safety concern for the persons who received a Typhim Vi vaccine from a recalled lot
- Persons who received a Typhim Vi vaccination from a recalled lot may have received less than the intended amount of antigen. Although Sanofi Pasteur does not have clinical trial data on the immunogenicity and efficacy of Typhim Vi vaccine with antigen content below specification, Sanofi Pasteur does not recommend revaccination earlier than otherwise indicated based on existing dose-ranging data and knowledge of the kinetics of Typhim Vi vaccine.
- Typhim Vi vaccine from lots not being recalled can be administered

Typhim Vi vaccine is indicated for active immunization against typhoid fever caused by *Salmonella enterica serovar typhi* (*S typhi*) in persons 2 years of age or older.

In the US, an alternative typhoid vaccine is VIVOTIF® (Typhoid Vaccine Live Oral Ty21a), distributed by Crucell.

Vaccination against typhoid fever is complementary to the classical avoidance of risky food and drink, and all hygienic recommendations must be carefully maintained.

Currently, there is no commercially available blood test to easily evaluate the anti-Vi serum antibody level of individuals and furthermore there is no validated immunological surrogate of protection (ie, antibody measurement) for typhoid fever.

Typhim Vi vaccine is a purified Vi polysaccharide and it behaves like a T-lymphocyte-independent antigen; the serum antibody response after a second dose is not greater than that observed after the initial vaccination. There are no data on immunogenicity for revaccination with a Vi polysaccharide vaccine less than 1 year after the primary dose. Revaccination is recommended 2 to 3 years after the previous dose.

There are no published efficacy or immunogenicity data of an oral attenuated *S typhi* vaccine in persons initially vaccinated with a Vi polysaccharide vaccine.

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Action to be taken:

- For individuals vaccinated with Typhim Vi vaccine less than 2 years ago and living in, or planning to visit, an endemic area
  - It is not feasible to measure the immunological status and hence level of protection against typhoid fever since these are not easily measurable and difficult to interpret
  - A reminder of the classical avoidance of risky food and drink should be provided
  - According to Typhim Vi vaccine prescribing information, there is no recommendation for revaccination before 2 years after the primary dose. There are limited data available on the immune response of revaccination if administered less than 2 years after the initial vaccination.

- For individuals vaccinated with Typhim Vi vaccine more than 2 years ago and living in, or planning to visit, an endemic area
  - A reminder of the classical avoidance of risky food and drink should be provided
  - Revaccination with a Vi polysaccharide typhoid vaccine is recommended
  - There are no data available on the immune response or efficacy of an oral attenuated *S typhi* vaccine administered after a previous vaccination with a Vi polysaccharide typhoid vaccine

- For individuals not yet vaccinated against typhoid fever and living in, or planning to visit, an endemic area
  - A reminder of the classical avoidance of risky food and drink should be provided
  - Vaccination with a licensed typhoid vaccine is recommended

In all cases, Sanofi Pasteur recommends that the decision to vaccinate and revaccinate is taken when the benefit of vaccination outweighs the risk of non-vaccination according to the level of exposure to typhoid fever.

Sincerely,

Michael D. Decker, MD, MPH
Vice President, Scientific & Medical Affairs

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