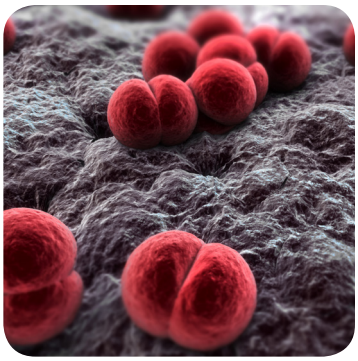
MENINGOCOCCAL DISEASE: A RARE BUT POTENTIALLY DEVASTATING DISEASE



Meningococcal disease is a rare but serious bacterial infection, caused by meningococcus (*Neisseria meningitidis*). Meningococcal disease includes infections of the membranes covering the brain and spinal cord (meningitis) and the blood (septicemia). The disease can claim a life in as little as one day.

There are many different serogroups (or types) of bacteria that can cause meningococcal disease. In the US, the majority of cases are caused by B, C, W, and Y serogroups.[2,3]

MENINGOCOCCAL DISEASE…TRANSMISSION

Transmission of meningococcal bacteria can occur during close or prolonged contact, as can happen when living in close quarters, kissing, or sharing beverages.[1]

In the US, adolescents and young adults are at increased risk of meningococcal meningitis.[4] The Centers for Disease Control and Prevention (CDC) recommends vaccination with MenACWY, which helps protect against 4 types of meningococcal bacteria, with the first dose given at age 11-12 and the second dose given at 16 years. According to the latest data from CDC, approximately 85 percent of adolescents received the first dose but more than half do not receive the second dose.[5]

MENINGOCOCCAL DISEASE…SYMPTOMS

Meningococcal meningitis strikes quickly and symptoms may include any of the following: severe headache, high fever, stiff neck, nausea/vomiting, rash, sensitivity to light and confusion.[6] Symptoms may be mistaken for flu and it's important to seek medical treatment quickly.[8]

MENINGOCOCCAL DISEASE…IMPACT

Despite treatment, around 10-15% of people die as a result of meningococcal disease, and as many as 10-20% of survivors suffer from serious complications such as amputation, scars, deafness, brain damage or kidney damage.[4]

MENINGOCOCCAL DISEASE…HIGHLY UNPREDICTABLE

Hundreds of cases of meningococcal meningitis occur throughout the US over the course of a single year and no one can predict where or when those cases will strike.[6]

MENINGOCOCCAL DISEASE IS VACCINE-PREVENTABLE

Vaccination is very effective, and it's the best way to help protect against this potentially deadly disease.[7] According to the CDC, coincident with the implementation of routine immunization in the US there has been a 76% decline in serogroup A, C, W and Y infections combined among adolescents and young adults (11-20 years of age).

AT SANOFI PASTEUR WE ARE COMMITTED TO MENINGOCOCCAL DISEASE PREVENTION

Sanofi Pasteur's legacy includes more than 40 years at the forefront in fighting meningococcal epidemics. Creating the first monovalent vaccine for Africa in 1974, followed by the first bivalent vaccine in 1975, and progressively extending protection against four of the most prevalent disease strains with the first quadrivalent vaccines registered in the US in 1981 and 2005.[8]

Today Sanofi Pasteur's quadrivalent conjugate meningitis vaccine is licensed in more than 70 countries with over 100 million doses distributed.

TACKLING HEALTH CHALLENGES TOGETHER

At Sanofi Pasteur, we are continuously developing and enhancing manufacturing capacities to support increased vaccination programs as well as supporting fast, efficient and reliable epidemic responses. We contribute to the WHO stockpile of meningococcal vaccines, and are both developing new vaccines as well as enhancing our current vaccines to fight the global burden of meningococcal disease. We aim to play a critical role in controlling meningococcal disease and helping reduce its impact and incidence in the US and abroad.

[1] CDC – Meningococcal disease. Available at: https://www.cdc.gov/meningococcal/index.html. Accessed April 18, 2018.

[2] Crum-Cianflone, N. and Sullivan, E. (2016). Meningococcal Vaccinations. *Infectious Diseases and Therapy*, 5(2), pp.89-112.

[3] Nadel, S. (2012). Prospects for eradication of meningococcal disease. *Archives of Disease in Childhood*, 97(11), pp.993-998

[4] CDC – Meningococcal Vaccines for Teens and Preteens. Available at: https://www.cdc.gov/vaccines/parents/diseases/teen/mening.html. Accessed April 12, 2018.

[5] CDC – National, Regional, State, and Selected Local Area Vaccination Coverage Among Adolescents Aged 13-17 Years — United States, 2017. Available at https://www.cdc.gov/mmwr/volumes/67/wr/mm6733a1.htm. Accessed October 17, 2018.

[6] CDC – Meningococcal Disease - Surveillance. Available at https://www.cdc.gov/meningococcal/surveillance/index.html. Accessed April 12, 2018.

[7] Vaccines Gov – Vaccines Work. Available at: https://www.vaccines.gov/basics/work/index.html. Accessed March 29, 2018.

[8] Sanofi Pasteur. Our Vaccines – A History of Innovation. Available at: http://www.sanofipasteur.us/about/history. Accessed March, 29, 2018.

[9] Unicef (2015). *Meningococcal Vaccines: Market Supply Update*. Page 6.