



PIC QUESTION OF THE WEEK: 06/06/05

Q: Which of the available meningococcal vaccines is currently recommended for a 60-year-old woman who is about to have her spleen surgically removed?

A: An increased risk of meningococcal disease has been observed in college freshmen living in dormitories, travelers (especially those visiting sub-Saharan Africa during the dry season), microbiologists, and military recruits. Also included in this group are individuals with functional or anatomic asplenia and those with terminal complement component deficiencies. The spleen plays a key role in the immunologic response and produces a number of immune components including lymphocytes and plasma cells. It also removes encapsulated organisms, e.g. *Streptococcus pneumoniae*, *Neisseria meningitidis*, and *Haemophilus influenzae* type b (Hib) from the systemic circulation. In addition to increasing the risk of meningococcal disease, asplenia can also enhance the potential for pneumococcal and Hib infections. In January, 2005, the FDA approved the first meningococcal tetravalent conjugate vaccine (MCV4), Menactra™ by Sanofi Pasteur. It contains capsular polysaccharides from the same serogroups (A,C,Y, and W-135) as the existing polysaccharide vaccine (MPSV4), Menomune®; however, it is also conjugated to diphtheria toxoid. Neither vaccine is effective against *N. meningitidis*, serogroup B. Conjugation of the polysaccharide vaccine prolongs the duration of the immune response and induces a greater anamnestic effect after subsequent exposure to the same antigen. The Centers for Disease Control's Advisory Committee on Immunization Practices (ACIP) has recently published its newest recommendations on the prevention and control of meningococcal disease. It now considers MCV4 to be the preferred vaccine for persons aged 11-55 years. In high-risk patients aged 11-55 years, including those with asplenia, MCV4 is also recommended; however, the CDC considers MPSV4 to be an acceptable alternative in this population. Because of a lack of data in individuals >55 years, MPSV4 is still the recommended form of meningococcal vaccine for the older, high-risk patient. Based on recent CDC guidelines, our patient should receive a single subcutaneous dose of MPSV4 before surgery.

Reference:

- ACIP. Prevention and control of meningococcal disease. MMWR 2005; 54(RR-7):1-21.

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