Provider Alert: Update on Meningococcal Outbreak in UCSB Students

This alert is to update medical providers on the outbreak of Invasive Meningococcal Disease (IMD) in undergraduate students at UCSB, including new guidance from the Santa Barbara County Public Health Department (SBCPHD) in identifying possible cases.

A fourth case of IMD was recently confirmed. The symptom onset for the four cases was November 11, 13, 18, and 21. All cases are undergraduate students (freshmen and sophomores) at UCSB, and all are serogroup B. Note that serogroup B is not covered by the meningococcal vaccine currently used in the United States.

Through our contact investigation we have identified and provided prophylaxis for over 500 students who were close contacts to the index cases. Because the majority of these are members of Greek organizations, we have advised UCSB to suspend organized social events in the Greek community through the month of December. We continue to provide antibiotic prophylaxis (Ciprofloxacin 500 mg orally in a single dose) to contacts as appropriate. Note that this chemoprophylaxis is given in an effort to prevent a person from carrying the bacterium *N. meningitidis* in their pharyngeal flora; it is only effective for 1-2 days. Thus, if a person is re-exposed to a second case of IMD, they should receive a second dose of chemoprophylaxis. This is being administered by UCSB and the SBCPHD.

At this time, and based on our ongoing epidemiologic investigation, we do not believe the Santa Barbara community at-large is at any increased risk of contracting IMD. We are not recommending mass chemoprophylaxis for either UCSB students or the community.

We continue to communicate daily with the California Department of Public Health (CDPH) and the Centers for Disease Control and Prevention (CDC), and these discussion have included the possibility of obtaining an investigational vaccine that helps protect against serogroup B. Access to this vaccine for UCSB students is being carefully reviewed by the CDC, and will be based on the particular circumstances of the outbreak. At this time, the vaccine is not available for our use.

**Patient Evaluation for Meningococcal Disease – Guidance for Providers**

While many healthcare providers are familiar with the fulminant and abrupt presentation that is considered typical of meningococcal disease, it is extremely important to note that the onset of disease can also be insidious and non-specific. Indeed, two of the four cases thus far in the UCSB outbreak had presented to a healthcare provider at least once prior to their
admission. Meningococcal disease was either not considered at all or was felt to be unlikely due to the subtle nature of their initial presentation. **Serogroup B disease may have a particular propensity for vague and non-specific early manifestations**; a California serogroup B case earlier in 2013 had seven outpatient visits before he was finally diagnosed. Invasive infection usually results in meningococcemia, meningitis, or both.

**Meningococcemia**

- Early on, may resemble viral URI with coryza and pharyngitis.
- Other non-specific features often include fever, N/V, headache, chills, malaise, and myalgias (often severe).
- In the four UCSB cases, fever, myalgias, nausea and rash were common. Vomiting, chills, and rhinorrhea were also seen. Although high fevers are often described with meningococcal disease, the fevers in these cases are often low-grade.
- The pharyngitis, which in meningococcal disease is nonsuppurative, is sometimes misdiagnosed as streptococcal pharyngitis.
- The skin manifestations of meningococcemia, especially early in the course, can be extremely variable:
  - When rash is present, it often begins as macules, maculopapules or urticarial. These typically evolve to become petechial within hours of onset (>50% of patients will have petechiae upon presentation). Large purpuric lesions evolve in severe cases.
  - A maculopapular rash can be an early finding in meningococcemia which may be transient and generally does not persist for more than two days.
  - When a maculopapular or petechial rash is present, it can resemble a viral rash. In one of the UCSB cases, the rash was initially thought to be varicella.
  - Purpura, the somewhat ‘classic’ feature of meningococcemia is (only) noted in 16-24% of patients.
  - Acral rash distribution is particularly suggestive of meningococcemia.

**Meningitis**

- Fever, HA, vomiting, irritability and/or stiff neck are often present early in illness.
- Meningococcemia may also be present.
- Rash is present in 2/3 of cases.
- Importantly, around 10% of CSF culture positive meningitis cases have a normal CSF profile. Therefore, a ‘normal’ CSF profile does not rule out meningococcal disease.

**We are recommending that suspected cases of meningococcal disease be immediately sent to the Emergency Room for a full evaluation and blood work.** Physicians should have a very low threshold to obtain blood cultures, CBC and inflammatory markers in UCSB students who present with vague, influenza-like illnesses.

**All suspected cases should be reported to Disease Control at (805) 681-5280.**

We will continue to work with UCSB, CDPH, and the CDC to respond to this outbreak in a proactive, timely manner. New information and recommendations will be provided as they become available.