BACTERIAL CULTURE

Bacterial culture of cutaneous lesions can be a powerful tool in guiding anti-infective therapy. Of recent, community acquired Staphylococcus aureus (CA-MRSA) has been recognized as a significant, and prevalent, cutaneous pathogen. Confirmation of the CA-MRSA phenotype is important, because these organisms are usually sensitive to more agents than typical MRSA. It is critical to realize that the information one gleans from culture is only as good as the specimen from which it was obtained. For instance, culture of decubitus and venous stasis ulcers are almost uniformly unhelpful, as these chronic lesions are frequently contaminated/ colonized, and it is impossible to decide which, if any, of the isolates are important. It is also difficult to determine the infecting pathogen from cases of cellulitis in which the skin is intact. It has been advocated to aspirate the 'leading edge' of an area of cellulitis for culture; however, this has very low-yield and is unhelpful.

Specimen selection, performance of culture and transport:

• Obtain culture from area of purulence (commensurate gram stain advocated; in non-neutropenic hosts, the absence of white cells puts the significance of culture in doubt)

• May use a sterile transport swab/ media (Portacult TM-) or steriles aspirate an abscess using a syringe. Aspirate may be transported in a sterile container

• Anaerobic cultures are rarely indicated. For deep lesions, anaerobic specimens may be obtained by aspiration but MUST be transported in anaerobic transport media (Port-a-cul TM or Anaport TM)

Culture:

The clinical laboratory follows strict protocols for cultures of exudates and swabs from lesions. These specimens are usually plated on blood agar and on a Gram-negative selective media such as MacConkey agar. Occasionally, a Gram-positive selective media such as phenylethyl blood agar may be used.

In most cases, 18-24 hours of culture for aerobic specimens will allow the laboratory to identify preliminarily bacteria by their hemolytic pattern, colonial morphology, or lactose fermentation pattern. An additional 24-48 hours may be required for subculture and performance of antibiotic susceptibility determinations.

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