Bacterial Detection Overview

The San Diego Blood Bank has been performing culture-based Quality Control bacterial detection testing of all apheresis platelets with the BacT/Alert system since March 1, 2004. Additional non-culture methods currently employed to reduce bacterial contamination of apheresis platelets include use of a donor history questionnaire to prevent blood collection from donors with increased risk of infection, performance of a donor mini-physical including temperature measurement, preparation of phlebotomy site with anti-microbial skin solutions, and diversion of the initial portion of blood donations.

After a minimum of 24 hours from collection, approximately 8 mLs of each apheresis platelet donation is sampled in an aerobic culture bottle and incubated in the BacT/Alert system. Culture bottles are incubated for up to 5 days. If a culture bottle indicator becomes “positive”. All components from the involved collection are immediately quarantined. If any involved components have already been distributed to hospitals, consignees are immediately notified to return products to the San Diego Blood Bank from hospital inventory. If the consignee determines that the component has already been transfused, the San Diego Blood Bank will notify the consignee that the bacterial culture indicator of the platelet product is positive, and the hospital should implement its internal procedures for physician notification and recipient follow-up.

Culture bottles with positive growth indicators are sent to a microbiology laboratory for subculture to confirm the presence of bacteria and to identify the bacteria present. All involved non-transfuse platelet products are cultured with the BacT/Alert system to evaluate the platelet products for the presence of bacteria. In cases where there is no growth in the culture bottles sent to the microbiology laboratory or there is no growth in cultures of non-transfuse platelet products, it is likely the result of a false positive culture. False positives can occur for a variety of reasons – usually due to falsely positive bottle indicators or when culture bottles become contaminated during the sampling process. A summary of findings is forward to the hospital consignee following the transfusion of a bacterially contaminated blood product.

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