

## Comparison of the Bact/Alert Blood Culture System and Manual Culture Methods for Detection of Aerobic and Facultative Anaerobic Bacterial Contamination in Platelet Concentrates

Abolfazl Dabir Moghaddam\*; Farhad Razjou;

*Center of Iran Medical Research Information, Iran*

FRAZJOU@yahoo.com

**Background & Objectives:** Bacterial contamination evaluation of blood products is regarded as important point of blood safety. Since platelets should be stored at 20 to 24C° that makes them an excellent growth medium for bacteria, it is mentioned as a major problem in transfusion medicine. For reducing this risk, FDA has approved the Bact/Alert (Biomérieux- France) for screening the platelet units. This study attempt to compare the Bact /Alert system and manual culture methods regarding length of time in hours to detection.

**Methods:** In this interventional and diagnostic study 15 platelet unit were selected randomly among 1332 unit and inoculated by 10 CFU/ml of various bacteria which contaminate platelet units routinely including streptococci, serratia marcescens, enterobacter cloaceae, corynebacterium diphteroied , staphylococci aureus and staphylococci epidermidis . Then these units with other platelet units were tested by Bact/Alert system and manual Methods as unknown sample.

**Results:** Regarding the shortage of platelet unit expiration time if length of time in hours to detection is used as a basis for comparison , the Bact/Alert system is significantly superior to manual Methods , insofar as it detects positives significantly faster .The medium length of time in hours for detecting the aerobic bacterias by Bact/Alert system is 31 hours ( SD: ±8) following inoculation of samples to medium bottles in comparison 61 hours( SD: ±11) by manual Methods .This time is by Bact/Alert system is nearly 2 time faster than manual Methods. **Conclusion:** Bact/Alert culture system in compare with manual Methods is more rapid and accurate for detection of bacterial contamination and so platelet safety will improve by using this system .

**Keywords:** Platelet Concentrate; Bacterial Contamination; Bact/Alert; Manual Culture