

Vitreous Culture in Suspected Infectious Endophthalmitis: Comparison between Blood Culture Bottle and Conventional Culture Plates

Patsuda Thariya*, MD, Yosanan Yospaiboon, MD

KKU Eye Center,

Faculty of Medicine, Khon Kaen University

Objective: To compare between blood culture bottle and conventional culture plates for the vitreous culture in patients with suspected infectious endophthalmitis.

Materials and Methods: Consecutive patients with suspected infectious endophthalmitis were recruited in the study. The vitreous specimens were inoculated in both blood culture bottles and conventional plates consisting of blood agar, chocolate agar, MacConkey agar and Sabouraud dextrose agar. The primary outcome was the number of positive yield in both culture methods. The result was analyzed using McNemar test and odd ratio. The significant difference was considered when P value < 0.05.

Results: There were 342 eyes with the diagnosis of suspected infectious endophthalmitis. The culture of vitreous specimens was positive in 151 eyes (44.15%). Blood culture bottle was positive in 136 of 151 eyes (90.07%), whereas conventional method was positive in 99 of 151 eyes (65.56%). This difference was statistically significant ($p=0.0000$). The blood culture bottle yielded more positive result than conventional method (odd ratio 3.47, 95%CI 1.92, 6.63). It was found that the 3 most common organisms isolated in blood culture bottles were coagulase negative Staphylococcus (18.4%), Bacillus spp. (16.9%), and Enterococcus spp. (9.6%). For conventional plates, the 3 most common organisms isolated were Bacillus spp. (17.2%), coagulase negative Staphylococcus (14.1%) and Pseudomonas aeruginosa (10.1%).

Conclusion: The culture of vitreous specimens with blood culture bottle is superior to conventional culture plates with statistically significant difference.