

Is blind passage from nonsignalling blood culture bottles necessary?

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Background: Automated systems are used for blood culture bottles sent to microbiology laboratory for culture. When this system does not give growth signal, blood culture bottles are accepted as negative on seventh day. However there are different opinions about blind passage(subculture) from nonsignalling bottles in order for avoiding pseudo negative results. In this study, we aimed to find out if blind passage is necessary or not.

Material/methods: From June 15 to September 1, 2015 ; blood culture bottles sent to microbiology laboratory were assessed by an automated system (BacT/Alert 3D). Blind passages were made from nonsignalling bottles. Aerobic, anaerobic and pediatric bottles were subcultured on to chocolate agar and incubated in 5 % carbondioxide atmosphere for 48 hours. Anaerobic bottles were also subcultured to sheep blood agar and incubated under anaerobic conditions for 72 hours.

Results: During the study period, 3538 blood culture bottles from 1006 patients were assessed. 7(0.2%) of 2815 nonsignalling bottles grew in blind passages. While five of these were from anaerobic bottles, two of these were from aerobic bottles (Table). *Pseudomonas* spp was detected in five of seven bottles. We realized the already growth of *Pseudomonas* spp in in the signalling bottles of those patients. *Aspergillus* spp. was grown from one culture bottle which was considered as contamination according to clinical situation of the patient. Finally, *Kocuria rosea* was detected from one aerobic culture bottle, this growth was also considered to be contaminant in regard to clinical data of the patient.

Conclusions: Detection of only 0.2% growth on subcultures of nonsignalling blood culture bottles and finding out their clinical insignificance indicates that blind subculture from whole nonsignalling bottles is unnecessary when it's time consuming , high workload and cost of materials used for subculture (growth media, sterile syringes, incubator etc.) were taken to consideration

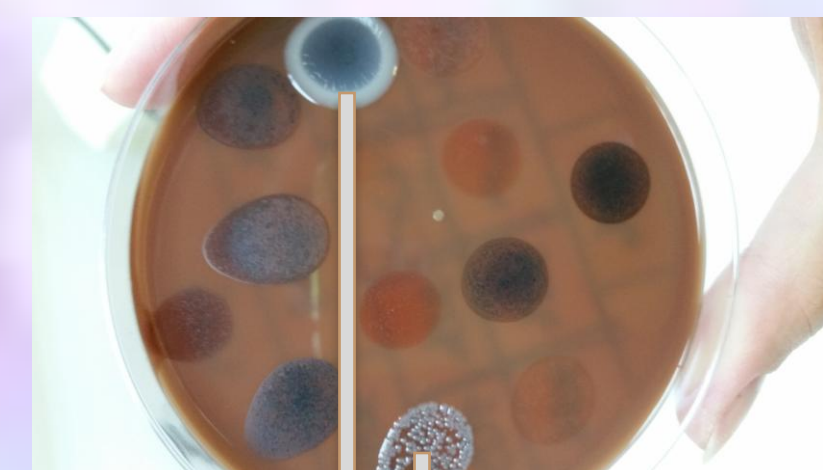
Table: The ratio of growth in blind subculture

	Aerobic culture bottle	Anaerobic culture bottle	Pediatric culture bottle	TOTAL
GROWTH(+)	2*	5**	-	7 (0.2%)
GROWTH(-)	1145	905	758	2808
TOTAL	1147	910	758	2815(100%)

**Kocuria rosea*, *Pseudomonas putida*

***Pseudomonas aeruginosa*(3), *Aspergillus* spp., *Pseudomonas chlororaphis*

Picture: Detection growth after blind passage



Growth (+)

