

Pengaruh natrium polianetol sulfonat terhadap pertumbuhan salmonela dalam darah pada media biakan empedu = The influence of sodium polyanethol sulphonate on the growth of salmonella from blood in bile culture

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Abstrak

Scope and Method of Study: Typhoid and paratyphoid fever are still a major problem in developing countries viewed from epidemiological, laboratory, as well as clinical aspects. Reliable laboratory diagnosis is the blood culture. However, failure of the blood culture occurs, due to the bactericidal effect of blood (phagocytes, complement, and specific and nonspecific antibodies, among others). Microbiologists are challenged to improve the blood culture by adding sodium polyanethol sulphonate (SPS) in the media. SPS is capable to inactivate the blood bactericidal effect, is an effective anticoagulant, non-toxic to most pathogens, stable to high temperature, acid and alkaline solutions, and is water-soluble.

The objective of this study is to compare bile culture plus 0.05% SPS to conventional bile culture for the growth of salmonella in blood. The result was evaluated by the rate of growth in both cultures after 1 minute, 4 hours and 12 hours (logarithmic phase). The number of organisms was calculated from growth on nutrient agar plates when the range-of growth were 30-300 colonies per 0.1 ml inoculum, and the dilution of both cultures.

Findings and Conclusions: Fifty isolates representing five species of salmonellae has been tested and showed that the number of organisms per ml in the SPS bile culture was not significantly different compared to conventional bile culture. In conclusion, the SPS bile culture is the same as conventional bile culture for the growth of *S. typhi*, *S. pa-atyphi A, B, C*, and *S. typhimurium* in blood from healthy humans, with a blood-broth ratio of 1: 10.