BCB-blood culture system (Roche) detects *Brucella* bacteremia in less than 8 days

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From July 1982 to December 1984 all blood culture bottles from patients with fever of unknown origin, suspected endocarditis, or brucellosis were routinely incubated at 35 °C for 14 days using BCB (Roche) system. Aerobic bottles (AER) contained columbia broth and anaerobic bottles (ANAER) thioglycolate broth. Subcultures were performed using BCB slides for AER twice a day during the first 48 h and daily thereafter. ANAER was subcultured only if AER was positive or if broth became turbid. 63/71 submitted AER originated from 16 patients with at least two cultures positive for *Brucella* spp. with a mean detection time of 6.2 days (range 4–10 d). 8/71 submitted AER (5/7 patients with previous antibiotics) were negative. At least one positive culture was detected within 8 days in all cases. 13/39 submitted ANAER became positive only after venting and subculturing, with a mean detection time of 10.2 days (range 7–17 days).
98.4% of positive cultures were detectable within 8 days. In the BCB Roche system incubation more than 10 days does not seem to be necessary for detection of *Brucella* spp., if vented or subcultured properly.

Gas-liquid chromatography as a complement in the research of *Clostridium difficile* in stools of clinically relevant patients

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The research of *C. difficile* in stools of patients with antibiotic associated diarrhea or with pseudomembranous colitis is of routine in many laboratories. This research is mainly done using a selective agar with cycloserine and cefoxitin (CCFA). When the laboratory has an available source of cell cultures (human lung fibroblast cells) a specific cytotoxic effect in the stool extract can be looked after. In many cases results may be paradoxal and there is a need of a third way of establishing the presence of *C. difficile*. In a still undergoing work, we have looked for the presence of isocaproic acid (iC_6), a major metabolic product of *C. difficile* in the stool extracts. Among 61 clinically relevant cases there was a major agreement in 88.5% of the tests (negative for culture, toxin and iC_6 in 40 cases, positive for culture, toxin and iC_6 in 14 cases). There was a minor agreement in 5% of tests (twice iC_6 and toxin positive, cultures negative; once iC_6 and culture positive, toxin negative). The minor (1.5%) and the major (5%) disagreements will be discussed.
This rapid and easy technique has allowed an univocal orientation in 93.5% of cases and it is specially useful when discordant results between cytotoxicity and culture exist; it can be used as a reliable screening method.

Evaluation of the 5-h Cobas-Bact® identification rotor for Enterobacteriaceae. A preliminary report

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The Cobas-Bact®, a new automated system for rapid susceptibility testing of non-fastidious bacteria has now the ability of identifying 36 different species of Enterobacteriaceae within 5 h. It relies on 16 biochemical reactions and requires only spot indole as a preliminary test.
So far we have tested 190 different strains (both fresh clinical isolates and stock cultures) identified by API 20E. Among 138 strains of the most commonly encountered Enterobacteriaceae in our hospital bacteriology laboratory (*E. coli* (24), *K. pneumoniae* (10), *K. oxytoca* (5), *E. cloacae* (19), *E. aerogenes* (2), *H. alvei* (3), *S. marcescens* (6), *P. mirabilis* (9), *P. vulgaris* (7), *P. rettgeri* (6), *M. morganii* (8), *C. freundii* (15), *C. diversus* (13), and *Salmonella* sp. (11). Cobas-Bact® agreed with API 20E on 137 identifications (99%). However 16.7% of these (23/138) required additional tests as well as all the Shigella tested (10). One single isolate (*S. marcescens*) was not identified by Cobas-Bact®. When restricted to the most common strains of Enterobacteriaceae, the Cobas-Bact® instrument appears promising for their rapid identification though a sizeable portion of the strains still requires additional tests.

Hydrophobic grid membrane filters (HGMF)

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On the surface of conventional membrane filters with a pore size of 0.45 µm a grid of hydrophobic material is printed on so that the filtration area is divided into 1800 individual growth compartments. The hydrophobic property of the grid lines determines the positions and limits the lateral growth of microbial colonies and produces a miniaturized most probable number system equivalent to a large number of tubes inoculated from a single dilution. HGMF provides a counting range of more than 3 log 10 cycles on a single membrane filter.

Comparison of virus detection by EIA and cell culture

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Sarkkinen et al. (J. clin. Microbiol. *13* (1981) 258) have published an enzyme immunoassay (EIA) for the rapid detection of viral antigens in nasopharyngeal secretions (NPS). The following viral antigens can thus be found: RSV, Adeno, Parainfluenza 1, 2, 3, Influenza A and B. Although the results of EIA have been compared with immunofluorescence, a comparative study using the classical cell culture method has not yet been done systematically. Therefore, we analyzed more than 200 specimens of NPS from children with respiratory tract infections both by EIA and cell culture. From the freshly collected NPS an aliquot was put into transport medium and used for inoculation of various cell lines. Cells were observed for the development of cytopathic effects (CPE) for RSV and Adeno viruses. Parainfluenza and influenza viruses were detected by CPE and hemadsorption. The data so far obtained show a correlation of about 90%. A detailed comparison of the results will be presented.

Direct 5-h Cobas-Bact® susceptibility testing of gram stain confirmed positive urine samples

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A rapid antimicrobial susceptibility test of positive urine samples with an automated instrument Cobas-Bact® was compared to conventional Kirby-Bauer agar diffusion disc method. 10 ml of gram stain confirmed positive urine samples were centrifuged at 2800 rpm for 15 min and 200 µl of the sediment suspended in saline were inoculated into Cobas-Bact® broth.
So far we tested the bacteria from 74 episodes of monomicrobial bacteriuria. In 3 cases (4.1%) not enough growth occured within 5 h. The 71 other organisms were: 61 gram-negative bacilli (48 *E. coli*, 12 other enterobacteriaceae, 1 *P. aeruginosa*), 10 gram-positive cocci (4 *S. aureus*, 2 coag. neg. sta., 3 enterococci and 1 *S. sanguis*). Overall, 516 antibiotic-organism tests were performed. Discrepancies (D) were found in 14.5% of the tests (75/516): 31 minor D (6%), 37 major D (7.2%) and 7 very major D (1.3%).