internal control detection. In addition, samples processed with the xTAG Stool Sample Pretreatment Pack were compatible with the four nucleic acid extraction platforms evaluated.

Conclusions: The study showed that xTAG Stool Sample pretreatment pack under development is a promising solution for stool sample preparation prior to nucleic acid extraction and molecular testing. Further evaluation of this pretreatment pack with a larger sample set is warranted.

Diagnostic/laboratory methods (other than molecular)

R2614 Comparison of cattle blood with sheep, rabbit and human blood in blood supplemented media

K. Jayatilleke*, N.J. Pittalage (Sri Jayewardenepura, LK)

Objective: Isolation of bacterial pathogens from clinical specimens is still the “Gold Standard” in diagnosing infectious diseases. Isolation of fastidious groups such as Streptococci, Neisseria and Haemophilus species require blood supplemented media for their growth. Due to lack of availability of recommended type of animal blood such as sheep and horse blood, expired banked human blood is widely used in developing countries. According to our experience and the experience of previous workers, human blood agar shows poor haemolysis pattern causing difficulty in identification. Considering the wide availability and dispersion of cattle throughout Sri Lanka, we are assessing the overall suitability of cattle blood as an enrichment substance in agar media in this study. We could not find any published studies determining the suitability of cattle blood for the above purpose.

Methods: We performed a descriptive, laboratory based study from 1st January to 30th April 2010. In this study, we tested the suitability of cattle blood enriched media for growth, identification, isolation from clinical specimens and antibiotic sensitivity testing for a selected group of bacteria. At the same time, we compared sheep, rabbit and human blood which are being used in microbiology laboratories in Sri Lanka currently for isolation of bacteria.

Results: Both defibrinated and citrated forms of cattle blood gave similar results for growth, identification, isolation of bacteria from clinical specimens and antibiotic sensitivity testing. Cattle blood gives synergistic haemolysis in CAMP test for identification of Group B streptococci. Haemolysis patterns and degree of haemolysis is very similar in sheep and cattle blood. Haemolysis produced in human blood agar was minimal when compared to animal blood agar. Results for the disk diffusion antibiotic sensitivity testing were similar on sheep blood enriched Mueller Hinton agar and cattle blood enriched Mueller Hinton agar for the strains tested in the study.

Conclusion: Either defibrinated or citrated cattle blood can be used to enrich bacterial culture media for growth, identification and isolation of bacteria from clinical specimens. Further studies are necessary to recommend cattle blood as an enrichment substance in antibiotic sensitivity testing.

R2615 Gray-scale and Doppler ultrasonographic evaluation of chronic osteomyelitis in clinical practice

F. Baziaka, V. Sakka, A. Balanika, I. Karaiskos, L. Galani, A. Mpournazos, C. Baltas, P. Koutroukas, H. Giamatellou* (Athens, GR)

Background: Chronic osteomyelitis (COM) in adults remains a difficult to treat disease. The key to successful management is early diagnosis as well as targeted and long lasting antimicrobial therapy. Our study aimed to carry out a useful framework for planning treatment of the patients with COM using ultrasonography. Furthermore, we evaluated how Color Doppler ultrasonography might be useful in detecting and monitoring resolution of COM.

Methods: Patients with COM were evaluated over a 2 years period (2009–2011). All patients were examined clinically for signs of infection (pain, erythema, edema and present of a fistula) at baseline and after 3, 6 and 12 months. In parallel, a gray-scale and color Doppler ultrasonography was performed for evaluation of progression of treatment.

Results: A total of 45 patients (28 male, 17 female) with an average period from initial diagnosis of COM of 23.3 months were included. There were 11 infections regarding the upper body and 34 involving the lower body, with the knee joint and the tibia representing the most affected sites. Fifteen COM were post-traumatic, 24 were post-operative, two were related to diabetic foot and four were primary. In addition, 26 patients had orthopaedic devices and 29 were free of foreign bodies. In 36 patients, a positive culture was identified (gram positive in 18, gram negative in 10 and polymicrobial in 8. Upon baseline evaluation, 39 patients had signs of infection and 18 had a fistula. Regarding ultrasonography, 35 patients had increased periostal vascularity, low-resistance arterial flow, periostal thickening, discontinuity of the cortex with or without a fistulous tract at baseline, findings consistent with COM. After 3, 6 and 12 months of treatment, 43% (15), 20% (7) and 26% (9) patients, respectively, had shown improvement. Four patients were lost during follow-up. Finally, a correlation between clinical and imaging findings was observed.

Conclusion: A gray-scale and color Doppler ultrasonography is a useful, rapid and cheap tool for the guidance of treatment in chronic osteomyelitis and of particular value in patients with metallic implants.

R2616 Serum procalcitonin increase in earthquake victims associated with sepsis

L. Guo*, Y. Xie, M. Xiong, X. Lv, H. Fan, M. Kang, C. Tao, Z. Chen (Chengdu, CN)

Objective: Procalcitonin (PCT) as the biologically active precursor of calcitonin, has shown closely correlation with outcome of critically ill patients. Serum concentration of PCT was rapid rising during bacterial infections.

Methods: The PCT was assessed with C-reactive protein (CRP). Acute Physiology and Chronic Health Evaluation II (APACHE II) and result of blood cluture in rescuing earthquake vitms after Wenchuan earthquake.

Results: A prospective, population-based investigation of sepsis was conducted over a 7-month period. The trial was a prospective clinical study with sepsis group and control group. The changing of serum PCT were detect with first, third and fifth day after patients admitted in our hospital. The serum PCT was a marked increase in death group, while CRP was slightly decline. In invalid group and improve group, serum PCT was rising with illness progresses and decreasing with improvement, but CRP value was changed unconspicuously. The mean value of PCT was significantly different in gram-positive cocci, gram negative bacilli and candida infection (p < 0.05). But in terms of level of CRP and APACHE-II, no difference was found between patients with sepsis (p = 0.551 and 0.733).

Conclusions: PCT is a very valuable diagnostic indicator of infection and the advantage of PCT is supporting rapid diagnosis. Furthermore, serum PCT levels increase more in patients with sepsis by GN than the GP of fungi.

R2617 Evaluation of the new Vidas® Lyme IgM and Vidas® Lyme IgG kits as screening test for the serological diagnosis of Lyme borreliosis

B. Van Meerss*®, M. Lontie (Leuven, BE)

Objectives: CDC currently recommends a two-tier testing algorithm for Lyme disease: an enzyme immunoassay as a screening test, followed by an immunoblot if the result is positive. We evaluated the performance of the new generation Vidas® Lyme IgM and Vidas®
Lyme IgG kits (Vidas® LYM and Vidas® LYG) as a screening test for Lyme disease and compared it to the former Vidas® Lyme test (Vidas® LYT – true antibodies). A commercial immunoblot (Borrelia Europe plus TpN17, Virotech) was used as a confirmation test.

Methods: A total of 143 frozen retrospective serum samples were tested. All samples were already tested by the Vidas® LYT assay using an immunoblot to confirm all positive results. The samples were divided into four categories. Cat. I: 41 patients: Vidas® LYT positive – blot negative (false-positives)

Cat. II: 30 patients: Vidas® LYT positive – blot positive (true-positives)

Cat. III: 21 patients: Vidas® LYT positive – blot undetermined

Cat. IV: 51 patients: Vidas® LYT negative. All sera were then tested with Vidas® LYM and LYG assays.

Results: Cat. I: of the 41 samples, only nine had a positive Vidas® LYM and/or Vidas® LYG result (78% less false positive results). Cat. II: of the 30 samples, 28 were positive with the Vidas® LYM and/or Vidas® LYG test. We noted a very good correlation between the IgM and IgG results of the Vidas® test and the IgM and IgG results of the immunoblot (96% and 93% respectively). Cat. III: of the 21 samples, 11 were negative with the Vidas® LYM and/or Vidas® LYG test. In seven of these 11 cases, we noted a discordance between the results of the immunoblot and the clinical picture (erythema migrans-like vs. IgG blot undetermined/IgM blot negative), so we can’t exclude the possibility of false positive IgG immunoblots. Cat. IV: of the 51 samples, two were positive with the Vidas® LYG test (index 0.21/0.31). Both samples were tested with immunoblot: one sample was negative; the other sample had an undetermined blot IgG. No clinical information was available.

Conclusion: The new generation Vidas® LYM and Vidas® LYG test, based on recombinant protein technology, demonstrated a significant better specificity (78% less false positives) compared to the former Vidas® LYT test which is based on the native antigen. The sensitivity seemed comparable between the two tests.

R2619 Stable combination discs of imipenem and dipicolinic acid, for phenotypic detection of metallo-beta-lactamases in Pseudomonas aeruginosa and Acinetobacter spp.

J. Bou Casals* (Roskilde, DK)

Objectives: Inhibitor-based methods are used to detect metallo-beta-lactamases (MBL) in Enterobacteriaceae. P. aeruginosa and Acinetobacter spp. Combined discs with EDTA may show false negative results with Acinetobacter and P. aeruginosa, due to the intrinsic antibacterial activity of EDTA against these microorganisms. Dipicolinic acid a potent inhibitor of IMP-1, VIM-1, VIM-2 and SIM-1 MBL has no intrinsic antibacterial effect against P. aeruginosa or Acinetobacter spp. Imipenem + Dipicolinic acid combined disc is expected to detect MBL in P. aeruginosa and Acinetobacter spp. A comparative study was performed against Meropenem 10 μg + dipicolinic acid (DPA), which has shown its effectiveness in detecting MBL in isolates of Enterobacteriaceae.

Methods: Ten isolates of P. aeruginosa possessing either IMP-1 or VIM-2 and 10 isolates of Acinetobacter spp. possessing either IMP-1, VIM-2 or SIM-1 MBL were tested against Imipenem 10 μg and Imipenem 10 μg + Dipicolinic acid as well as Meropenem 10 μg and Meropenem 10 μg + Dipicolinic acid on MH agar with Mac Farland 0.5 inoculum. Zones of inhibition ≥5 mm larger with the combination discs compared to the single discs, indicates the presence of an MBL.

Results: (i) Pseudomonas aeruginosa: 10 out of 10 MBL were detected using Imipenem + DPA, while the Meropenem + DPA combination detected 90% of the VIM-2, but only 40% of the IMP-1 producing isolates. (ii) Acinetobacter spp. The Imipenem 10 μg + DPA combined disc detected 10 out of 10 MBL, while the Meropenem + DPA disc detected nine out of 10 MBL.

Conclusion: Combination discs of Imipenem 10 μg and Dipicolinic acid are very effective in detecting MBL in both Pseudomonas aeruginosa and Acinetobacter spp. Sensitivity and specificity were 100%. nd specificity were 100%.

R2620 Diagnosis of intestinal parasitic infections using fluorescence microscopy

L.K. Nono*, L.G. Lehman, C.F.B. Bilong (Yaounde, Douala, CM)

Objective: Intestinal parasites are a real public health problem in developing countries. They are generally responsible for many symptoms among which malabsorption, anemia, abdominal pain and diarrhea. The fight against intestinal parasites requires multifaceted approaches with prior identification of the parasite species involved. Diagnostic methods based on microscopic identification of parasites remain common in developing countries, despite their low sensitivity. Recently, new fluorescent microscopes with light emitting diodes have improved the diagnosis of other protozoan parasites such as malaria using a DNA-specific dye DAPI (4’,6-diamidino-2-phenylindole). This study was designed to compare a rapid fluorescence microscopy – based method for diagnosis of intestinal parasites to classical microscopy and to collect epidemiological data in rural and urban settings to Cameroon.

Methods: From september 2009 to march 2010, 583 stool samples from outclinic patients were analyzed, including 300 in the city of Douala and 283 in the rural area of Njombe. Each sample was submitted to direct microscopic examination and formalin-ether concentration technique. The observation under fluorescence after staining with DAPI and white light was made using a fluorescence microscope CyScope® (Partec GmbH, Göttingen, Germany). Statistical analysis were done on SPSS statistics version 17 (SPSS Science Inc, USA).

Results: Stool samples had less visible artifacts under fluorescence and helmint eggs were very clearly observed. In opposite, protozoa were better distinguished using white light. The search for parasites was positive in 155 (26.6%) of the 583 patients in the study. The prevalence in Njombe was significantly higher than Douala (39.2% against 14.7%,