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ABSTRACTS

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Salmonella bacteremia with confirmed mycotic aneurysm at surgery or autopsy.

Results (see table): Overall, the most common species were *Salmonella typhimurium* (26%), *Salmonella enteritidis* (24%) and *Salmonella choleraesuis* (20%).

Conclusions: An important risk factor for SA is atherosclerosis. Due to the high mortality of SA, patients with atherosclerosis and *Salmonella* enterocolitis should be treated with quinolones even without documented bacteremia. In case of fever, blood cultures should be performed after stopping antibiotics, in order to detect recurrent bacteremia as a sign of aortitis.

P576 Is an Infection by *Chlamydia pneumoniae* a Risk Factor for a Cardiovascular Endpoint?

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Objectives: This prospective study tries to find out a link between an acute or chronic infection by *Chlamydia pneumoniae* and a cardiovascular event.

Methods: Serological tests of 58 patients and of 58 controls (age and sex matched) were analyzed for recent or past infections of *Chlamydia pneumoniae*. The second serological test was done 4 to 6 weeks later. Titers of IgG, IgM and IgA were determined by Microtiter indirect immunofluorescence test. The patients had suffered an acute myocardial infarction or a coronarographic proven angor in the week preceding the first serological examination.

All patients and controls were asked about their cardiovascular risk factors and about an upper respiratory tract infection during 6 weeks before their hospitalization.

Results: Patients with a coronary event had statistically significantly more histories of upper tract infections than controls ($p = 0.03$). 19/58 patients and 24/58 controls had an serologically proven infection (IgG, IgA, IgM) by *Chlamydia pneumoniae* ($p = 0.93$). Only 2 patients and 1 control had an acute infection by *Chlamydia pneumoniae*. This study could not confirm that an infection by *Chlamydia pneumoniae* is a risk factor for a cardiovascular event. The prevalence of positive serologies of *Chlamydia pneumoniae* in patients and controls were the same, and were similar to the prevalence in Europe. Our results don't confirm the findings of other studies. We think that a serological analysis alone might not be sensible enough to detect all upper respiratory tract infections by *Chlamydia pneumoniae*. It is likely that a PCR-test could give more information. Furthermore, other infectious agents may play a role in the pathogenesis of an acute cardiovascular event.

P577 Seroprevalence of *Chlamydia pneumoniae* in Coronary Heart Diseases

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Objective: The relationship of *Chlamydia pneumoniae* (*C. pneumoniae*) to coronary heart diseases and the generation of atherom plaques in coronary arteries has been suggested by seroepidemiologic studies and by observation of microorganisms in atherosclerotic lesions by direct methods.

Methods: In this study, we investigated 58 serum samples of patients with coronary heart disease who undergone coronary angiography and a control group of 20 healthy subjects who were selected from asymptomatic patients. The investigation was made using the indirect immunofluorescent antibody assay (IIFA) in order to detect a possible relationship between coronary heart diseases and *C. pneumoniae* infections. The aim of this study was to determine sero-

prevalence of *C. pneumoniae* in coronary heart diseases. We accepted 1/100 and higher titers as seropositive. We determined whether or not patients with coronary heart disease had angina pectoris, myocardial infarctus, hypertension and diabetes mellitus as possible risk factors.

Results: We found that 41 (75.9) patients with coronary heart disease symptoms were seropositive for *C. pneumoniae* and 10 (50%) in the control group. In 25 (54.4%) of the patients with coronary heart disease, *C. pneumoniae* infection was the only risk factor.

Conclusion: Although our findings suggest a positive relationship between *C. pneumoniae* and atherosclerosis as other studies have shown, and since specific antimicrobial therapy for atherosclerosis for these patients is not yet being used, it is important that physicians become aware of this relationship.

P578 Coronary Arteries Harbour Viable *Chlamydia Pneumoniae*

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Objectives: Indirect seroepidemiologic evidence suggests former infection with the intracellular bacterial pathogen *Chlamydia pneumoniae* to be a risk factor for coronary heart disease and acute myocardial infarction. This investigation was made to ensure recovery of viable *C. pneumoniae* from atheromatous plaques of stenotic human coronary arteries.

Methods: Coronary endarterectomy samples were examined for presence of genomic *C. pneumoniae* DNA in a nested PCR ($n = 120$) and for the presence of viable chlamydiae by cell culture ($n = 60$). Patient sera were examined by a microimmunofluorescence assay.

Results: Viable, continuously replicative *C. pneumoniae* were recovered from 8% of atherosclerotic plaques. 24% of the coronary samples were positive for chlamydial DNA. Infection appeared limited to progredient atherosclerotic lesions. There was no apparent histologic distinction between infected and non-infected tissue. Serology was of no use in identifying the patients with endovascular infection.

Conclusions: Results demonstrate a substantial part of atherosclerotic coronary arteries to be infected with viable *C. pneumoniae*. A causal contribution of the endovascular infection to atherogenesis and coronary heart disease remains to be established.

Brucella, diphtheria, leptospira

P579 Microtechnique of 2-Mercaptoethanol Test in Serologic Diagnosis of Human Brucellosis

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Objectives: A comparative assessment of Microtechnique of 2-Mercaptoethanol test (MAT 2-ME) in comparison with 2-Mercaptoethanol test (2-ME) in serologic diagnosis of human brucellosis.

Methods: 2-ME was performed in tubes and MAT 2-ME in microplates. The sera were incubated at 37°C for 24 h. Titers ≥ 160 were considered as positive. These tests confirm only IgG as agglutinable antibodies in sera.

Results: A total of 223 sera were examined with both methods. Equal titers were in 212 (95%). The differences of two or more dilutions in 11 (5%) sera were statistically insignificant ($p > 0.05$).

MAT 2-ME has some advantages: need 20 fold lesser *Brucella* antigen, the irritation of mucosae is significantly lesser, the simply and fast use, the additional equipment is not expensive.

Conclusions: MAT 2-ME is very accurate method with some advantages in comparison with 2-ME. Since the results of this test, in combination with the results of The Serum Agglutination Test-Wright, are an important indicator of the activity and the stage of the disease and response to the antibiotic treatment, this test should be used as one of the routine serological tests.

P580 Diagnosis of Human Brucellosis by A Single Tube Nested Polymerase Chain Reaction Assay

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Objectives: To develop a single tube nested polymerase chain reaction (PCR) assay for detection of *Brucellae* in human blood.

Methods: A single tube nested PCR was developed with outer and inner primers derived from IS711, a gene common to all *Brucellae*. The PCR products were detected by colorimetry. The test was applied in field conditions with blood specimens from 28 clinically diagnosed brucellosis patients, 28 patients with fevers due to other causes, and 28 healthy controls.

Results: The single tube nested PCR gave positive reactions with 14 strains of five *Brucellae* species, and detected as few as 30 organisms. There were no false positive PCR reactions with a range of bacteria known to evoke serological cross-reactions with *Brucellae*. Blood samples from 28 subjects with clinically suspected brucellosis gave a positive PCR. Samples from 28 patients with fever of other causes, and samples from 28 healthy controls gave negative PCR results.

Conclusion: The established single tube nested PCR could be a valuable method in the specific diagnosis of human brucellosis.

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P581 Seroprevalence of Brucellosis

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Portugal, as a Mediterranean country with tradition of husbandry, presents a high Brucellosis incidence.

Objectives: To know the Brucellosis seroprevalence in an endemic area and to compare laboratorial tests (Rose Bengal-RB, ELISA, Immunofluorescent Assay-IFA).

Methods: Epidemiological and serological case-control study in 346 rural inhabitant, randomly select from two similar communities. Data were gathered using a questionnaire and by blood collecting. All the serum were tested by RB and ELISA. The positive serum were tested by IFA. It was done another blood collecting after 6 months only on the persons who have had positive tests or Brucellosis before.

Results: In the control population, two IgA positive serum were found with ELISA but one of them was from a previously detected Brucellosis case. In the case population, a lower rate of positive serum (1.48%) was found using RB. With ELISA it was found 0.74% IgM positive, 7.35% IgG positive and 9.56% IgA positive. Using IFA, 5.88% IgG positive serum was detected.

Conclusions: In the endemic community, we found a Brucellosis seroprevalence of 12.50% which is similar to another studies.

With regard to laboratory tests we found that there is no correlation between RB and ELISA. Between ELISA and IFA the correlation is positive ($r^2 = 0.32$).

We found the populations screenings not effective because the cost/benefit relation isn't positive. We think that developing educational/information to country people and increase the epidemiological surveillance in endemic communities with laboratorial screenings tests like ELISA or IFA will be more effective measures to take in terms of public health.

P582 Childhood Brucellosis in Southern Spain

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Objectives: To describe the epidemiology, clinical features, laboratory findings and outcome of pediatric brucellosis in Southern Spain.

Methods: Retrospective chart review of patients younger than 14 years of age diagnosed of having brucellosis between 1985 and 1995.

Results: Sixty three patients, ages ranging from 18 months to 13 years, had brucellosis. Fever (100%), sweating (50.8%) and arthralgias (49.2%) were the commonest presenting symptoms. Liver enzymes were elevated in 62 percent of the patients. *Brucella Mellitensis* was identified in 80.3 percent of the cases. Eleven patients (17.5%) had focal complications. Peripheral arthritis was present in seven patients. Another two additional patients had axial skeleton involvement. There was one case of neurobrucellosis and a child presented evidence of DIC. The duration of symptoms before diagnosis was similar in patients with uncomplicated courses to those with focal complications (13.79 ± 9.16 vs 14.92 ± 6.14). Thirty eight patients received doxycycline for 3 (30) or more weeks (8) plus streptomycin for 2 weeks. Eighteen children were treated with rifampin either, for 3 (7) or 4 (11) weeks along with streptomycin. Remaining patients were given different combined therapy schedules. The overall relapse rate was 11.1%. There were no relapses among the patients treated with rifampin plus streptomycin. Four patients (13.3%, CI 3.16-23.50%) who received 3 weeks of doxycycline plus streptomycin relapsed.

Conclusions: Brucellosis remains a significant health problem among children in Southern Spain. Three weeks of doxycycline plus streptomycin may not be fully effective in preventing relapses.

P583 Brucellosis-Clinical and Epidemiological Characteristics in Our Region

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This work is a review of the registered patients suffering from Brucellosis in Bitola and its surrounding villages in the period of 1980 to 1990. 398 patients were hospitalized with an average duration of the hospitalization of 21 days. 93.69% were completely cured, 6.03% were relapses. According to their profession 53.26% were cattle breeders; 28.6% housewives; 13.32% students; 1.26% veterinarians; 4.27% rest. The dominant way of infection was the direct contact with the infected cattle. According to age: 40.2% belonged to the group of 40 to 60 years of age; 32.66% to the group of 20 to 40 years; 20.1% to the group of 0 to 20 years, and 7.8% belonged to the group over 60 years. According to the symptoms dominance, patients were grouped: patients with symptoms on the locomotor system with 28.64%; patients with damage of visceral organs with 39.6%; with liver damage 15.07%; with orchiepydidymitis 4.52%; with lymphadenopathies 19.85% and with general infectious syndrome