

P1231 Antagonistic activity of *Lactobacillus acidophilus* toward clinical strains of *Helicobacter pylori*

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Objectives: Clinical observations document antagonistic activity of probiotic bacteria of the *Lactobacillus* genus in the course of *Helicobacter pylori* infection. Therefore, in present study the in vitro effects was evaluated of *L. acidophilus* strains which produced or did not produce hydrogen peroxide on clinical isolates of *H. pylori*.

Methods: The material for studies involved 20 clinical isolates of *H. pylori* obtained from mucosa of patients with endoscopically confirmed duodenal ulcers. The biopsies were plated on Columbia agar (bioMérieux) with 7% shepp blood agar and incubated in microaerophilic conditions at 37°C for 4 days. The isolated *H. pylori* strains were identified on the basis of Gram staining and by their production of urease, catalase and oxidase.

Strains of *Lactobacillus acidophilus* originated from vaginal smears or saliva samples of healthy women. Species identification was conducted using API 50 CHL test (bioMérieux). For detection of hydrogen peroxide production by the isolated *Lactobacillus acidophilus* TMB-Plus agar was applied. In studies on antagonism the so called columnar technique was employed measuring *H. pylori* growth inhibition zone around an agar column containing 48 h culture of the analysed *L. acidophilus* strain.

Results: The range of obtained zones of *H. pylori* growth inhibition in presence of hydrogen peroxide producing strains of *L. acidophilus* ranged from 4.9 to 14.2 mm (mean: 9.6 ± 3.6 mm). The range of zones of *H. pylori* growth inhibition in presence of *L. acidophilus* strains which did not produce hydrogen peroxide ranged from 5.7 to 11 mm (mean: 8.0 ± 2.0 mm). Analysis of the obtained results disclosed no significant differences between *H. pylori* growth inhibition induced by *L. acidophilus* strains which produced or did not produce hydrogen peroxide ($p > 0.05$)

Conclusions: Strains of *L. acidophilus* induce variable inhibition of growth in clinical isolates of *H. pylori* and the effect is not related only to hydrogen peroxide production by the former strains.

P1232 Oral lactobacilli in dental caries

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Objectives: Caries is a unique multifactorial infectious disease, inducing local destruction of dental tissues. Bacteria of the *Lactobacillus* genus have been well documented to be involved in progress of the cariatic process. Present study aimed at evaluation involvement of *Lactobacillus* spp. producing or not producing hydrogen peroxide in active caries.

Methods: Material for the studies involved samples of the full saliva obtained from 120 patients (20–49 years of age), in whom clinic, according to World Health Organization criteria, permitted to diagnose active caries in 45 patients (group 1) or diagnose patients as caries free (75 patients; group 2). The samples of saliva were plated on Rogosa agar and the cultured isolates obtained in anaerobic conditions were identified using API 50 CHL (bioMérieux). In parallel, for detection of hydrogen peroxide production by the isolated *Lactobacillus* spp. TMB-Plus agar was applied.

Results: In group 1 with active caries saliva of all patients was found to contain *Lactobacillus* spp. unable to produce hydrogen peroxide. On the other hand, in 42 (56%) patients in the caries free group (group 2) presence of hydrogen peroxide-producing *Lactobacillus* spp. was disclosed while no such *Lactobacillus* spp. were detected in the remaining 33 (44%) patients of group 2.

Conclusions: Development of caries seems to be linked to presence of oral lactobacilli which produce no hydrogen peroxide. Detection of hydrogen peroxides, produced by *Lactobacillus* spp. in saliva, may be of diagnostic importance in evaluation of the risk of intense caries.

P1233 Methicillin-resistant *Staphylococcus aureus* infection in a community hospital and the impact of a nursing home opening in its influence area

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Objective: To study the incidence of Methicillin resistant *Staphylococcus aureus* (MRSA) infection in a new opened hospital and the impact of a nearby nursing home opening.

Methods: Retrospective analysis of patients infected with MRSA from November 1998 to October 2006. Our hospital covers a population of about 66,000 people and lacks of Intensive Care Unit (ICU). Age, sex, concomitant diseases and mortality were analysed. A nursing home was opened in the hospital influence area (April 2002). We analysed the impact of this in terms of hospital admissions due to MRSA infections. Nasal culture of the nursing home residents was performed to know the prevalence of MRSA carriers.

Results: 64 patients were admitted to the department of Internal Medicine suffering MRSA infections. Blood culture was positive in 10 cases; skin and subcutaneous tissue culture in 7 cases and sputum culture in 47 cases. Middle age was 73 (range 43–91) years old; 45 patients were men and 19 women. During 1998 and 1999 there were no SAMR infections reported. In 2000 (3), 2001 (5), 2002 (3), 2003 (8), 2004 (13), 2005 (20), and 2006 (12) cases. The annual incidence of MRSA infection ranged from 4.54/100,000 (years 2000 and 2002) to 30.30/100,000 habitants (year 2005). The most common associated diseases were chronic obstructive pulmonary disease (COPD, 40 patients), hypertension (22 patients), anaemia (16 patients), hyperlipidaemia (15 patients) and smoking, heart failure and atrial fibrillation (12 patients each). Thirteen patients (20.31%) died. When examined nasal culture, a total of 89 cultures were performed (98% of the total number of residents). From these, 9 were positive for MRSA (carrier prevalence of 10.11%).

Conclusions:

1. There is an increasing rate of MRSA infections in our hospital, especially respiratory infections.
2. The most frequent underlying clinical conditions in our patients are COPD, hypertension, anaemia and hyperlipidaemia. MRSA infection leads to a considerable death rate (20%).
3. The opening of a nursing home in our hospital influence area, probably explains the increasing rate in the following years.
4. The relatively old age of our patients all together with the high rate of MRSA carriers and the probable previous admissions to other hospitals (with ICU) of the nursing home residents, points to the need of eradicating this carriers in order to reduce the rate of hospital infections for MRSA related conditions in our area.

P1234 Use of an AFLP technique for the discrimination of source (human or animal) of *E. coli*

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Objectives: The development and evaluation of a molecular method Amplified Fragment Length Polymorphism technique to fingerprint and differentiate the source of *E. coli* was the original scope of this study.

Methods: 50 samples of human and 50 samples of animal *E. coli* were used for the development of the method. The method for the AFLP was adapted by Gibson et al. (1998) with minor modifications. DNA extraction of the *E. coli* isolates was performed by Prot K extraction method. DNA was digested by Hind III in the buffer provided with the enzyme with 5mM spermidine trihydrochloride. A 5-mL aliquot of the reaction was used to a ligation reaction containing 0.2 µg. The ligated DNA was precipitated with ammonium acetate and ethanol. Then PCR was performed in a total volume of 50 µL as Gibson et al. (1995) described. Amplified fragments were electrophoresed in 1.5% agarose

gel. Bands were statistically evaluated to select the specific bands representative of the source.

Results: Four primers with sequences complementary to the adapter sequence were tested. The ability of each primer was assessed on the basis of the results for ease differentiation of specific bands from animal and human *E. coli* strains isolated from human faeces (hospital) and animal faeces. The human faeces derived from humans (adults and babies) hospitalised for gastroenteritis; the animal faeces came from poultry, bovine and goats. Two primers were judged to produce the most satisfactory results for ease differentiation of origin (human or animal) of *E. coli*.

Conclusion: AFLP as described can be applied to *E. coli* without the need for expensive equipment or reagents and is relatively rapid, technically simple, reproducible and specific. It can be a useful a method for the discrimination of source of *E. coli*. It can be proved a very powerful tool for the evaluation of the origin of unknown *E. coli* and help to the sanitary survey of an area as well as to the risk assessment.

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P1235 Efficacy of long-term co-trimoxazole in Q fever during pregnancy

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Background: Q fever is a worldwide zoonosis caused by the obligate intracellular bacterium *Coxiella burnetii*. During pregnancy it may result in obstetrical complications such as spontaneous abortion, low birth weight, oligoamnios, fetal death and premature delivery.

Objectives: To evaluate the efficacy of long-term co-trimoxazole treatment in cases of Q fever during pregnancy.

Material and Methods: We evaluated the prognosis of 53 pregnant women who developed Q fever with and without long-term co-trimoxazole treatment defined by the oral taken of trimethoprim and sulfamethoxazole during at least 5 weeks.

Results: In the 37 pregnant women who did not received long-term co-trimoxazole treatment, we observed a 81.1% obstetrical complications rate: 5 (13.5%) spontaneous abortion, 10 (27%) low birth weight, 4 (10.8%) oligoamnios, 10 (27%) intra uterine fetal death and 10 (27%) premature deliveries. Outcome of the pregnancy was found to depend on the trimester in which patients had been infected ($p=0.032$) and on the placental infection by *Coxiella burnetii* ($p=0.013$). Long-term co-trimoxazole treatment protected against chronic Q fever ($p=0.001$), placental infection ($p=0.038$), and obstetrical complication ($p=0.009$) especially fetal death (0/16) ($p=0.018$).

Conclusions: Our results show that Q fever during pregnancy causes severe obstetrical complications including fetal death. Because of its ability to protect against obstetrical complications and chronic Q fever, long-term treatment by co-trimoxazole should be used to treat women who develop Q fever during pregnancy, specifically when infected during the first trimester.

P1236 Listeriosis in pregnant women

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Background: Listeriosis is relatively rare and occurs primarily in newborn, elderly patients, and immunocompromised persons. Incidence is 7.4 cases per million population. Pregnant women account for 27% of all cases. Hormonal changes during pregnancy have an effect on the mother's immune system that lead to an increased susceptibility to listeriosis in the mother. According to the CDC, pregnant women are about 20 times more likely than other healthy adults to get listeriosis. Listeriosis can be transmitted to the fetus through the placenta even if the mother is not showing signs of illness. This can lead to premature delivery, miscarriage, stillbirth, or serious health problems for her newborn.

Objective: To established the incidence of listeriosis in pregnant women in Constanta and the consequence concerning to fetus and newborn.

Material and Method: Retrospective study on 280 women with abortive disease serologically investigated for *Listeria monocytogenes* (serotype 1a) in the last five years (2001–2006).

Results: The most affected age group proved to be that in the range of 20–30 years: 206 (73.9%) cases. 112 (40%) female had the diagnostic titer ($\geq 1/320$); among these, 64 (22.85%) had miscarriages in the IVth–VIIIth month and 38 (13.57%) gave birth to dead foetuses. During pregnancy, only 10 female (3.57%) was diagnosed with listeriosis and received treatment with Ampicillin. The rest of female (168 cases) was diagnosed later to abortion and the titer was low. All Ampicillin treated female gave birth healthy newborn.

Conclusions: Listeriosis is a serious diseases during pregnancy. In our study only 10 female patients was diagnosed with listeriosis during pregnancy, received early treatment and gave birth healthy newborn.

P1237 Cutaneous anthrax in a teaching hospital, Turkey: a review of 39 cases

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Objectives: To evaluate the epidemiological, clinical and laboratory findings and treatment protocols of patients with cutaneous anthrax retrospectively.

Methods: Patients diagnosed with cutaneous anthrax and followed up in the Department of Clinical Bacteriology and Infectious Diseases in the Cumhuriyet University Hospital, an 800-bed teaching hospital in Sivas, central Turkey, between January 1983 and December 2005 were included in the study. The diagnosis of cutaneous anthrax was based upon clinical findings and/or microbiological procedures, including Gram stain and culture of materials obtained from lesions. Patients' charts were reviewed and age, sex, occupation, exposure to a sick animal or to animal products, symptoms, location and type of lesion, clinical and laboratory findings and choice of treatment were recorded for each patient.

Results: In this period 39 patients with cutaneous anthrax were diagnosed and followed up in our clinic. Mean age of the patients was 44 (15 to 74) years, 12 (31%) of whom were females and 27 (69%) of were males. Twenty-five cases (64%) had a history of recent animal slaughtering activity. The clinical presentations were malignant oedema in 10 (26%) of 39 patients and malignant pustule in 29 (74%). The lesions were mostly located on the hand and forearm. The diagnosis was confirmed by bacterial isolation in 17 (44%) cases, by direct examination from the lesion material in 8 (21%) cases. The diagnosis was established in 14 (36%) cases by the lesion presentation. Thirty-six patients were treated with penicillin G. Because of the fact that three patients had a history of penicillin allergy, chloramphenicol, ciprofloxacin and doxycycline was used respectively. A patient with malignant oedema died on the first admission day due to asphyxiation caused by tracheal compression from the extensive oedema.

Conclusions: Although the incidence of anthrax is decreasing worldwide, it is still encountered in Turkey. It manifests sporadically in the eastern, south-eastern and central parts of Turkey where the disease is endemic. Cutaneous anthrax should be considered in any patient with a painless ulcer with vesicles, oedema and a history of exposure to animals or animal products. We think that penicillin is the antibiotic of choice for the treatment of anthrax in endemic regions.

P1238 New perspectives on the bacteriology and antimicrobial susceptibility of dog bite wounds

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Objectives: In spite of dog bite wounds being a common reason for dogs requiring veterinary care, there is surprisingly little data on the bacteriology of bite wounds. Thus, a prospective study was performed on dogs presenting at the Onderstepoort Veterinary Academic Hospital,