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INSTRUCTIONS TO AUTHORS

Aims and Scope
Romanian Archives of Microbiology and Immunology, an international journal dedicated to original research work, publishes papers focusing on various aspects of microbiology and immunology. Romanian Archives of Microbiology and Immunology is indexed in MEDLINE. The frequency of the Journal is currently four issues per year.

Categories of manuscripts
Full-length articles are full-length descriptions of original research (up to 10 printed pages).
Reviews are comprehensive appraisals of research in a field of current interest. All reviews are subject to the normal review process (up to 15 printed pages).
Rapid Communications are brief, definitive reports of highly significant and timely findings in the field (up to 5 printed pages).

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Manuscripts and all attached files (tables and illustrations) should be submitted in electronic form to the Editorial Office, e-mail address: archives@ntaczaucino.ro or by regular mail (address: Redactia Revistei Romanian Archives of Microbiology and Immunology, Spl. Independentei 103, sector 5, 050096, Bucuresti, Romania) on compact disk, preferably accompanied by three copies of the manuscript, including tables and figures, printed on one side of A4 paper format, double-spaced, with 2.5 mm margins. The preferred software is Microsoft Word. In order to speed up the process of review, manuscripts should be prepared very carefully.

Cover letter
Each manuscript submitted to the Romanian Archives of Microbiology and Immunology must be accompanied by a Cover letter including an explicit statement by the corresponding author that:
• the manuscript represents an original work, has not been previously published, and has not been submitted simultaneously for publication elsewhere.
• the manuscript, as submitted, has been reviewed and approved by all named authors and that all authors concur with the submission and are responsible for its content.

Editorial review and acceptance
All manuscripts are subject to editorial review by professional peer reviewers (at least two). The acceptance criteria for all manuscripts are based on quality and originality. The corresponding author of a manuscript is informed within 45 days after submission that the paper is accepted for publication in the journal, needs revision or is rejected. Revised manuscripts should be resubmitted as soon as possible but not later than 14 days.

Ethical considerations
A paper describing any experimental work with humans should include a statement that the Ethics Committee of the institution in which the work was done has approved it, and that the subjects gave informed consent to the work. Experiments with animals should be done in accordance with the legal requirements of the relevant local or national authority. Procedures should be such that animals used in experiments do not suffer unnecessarily. Papers should include details of the procedures and anaesthetics used. The Editors will not accept papers where the ethical aspects are, in their opinion, open to doubt.

Preparation of manuscripts
Manuscripts should be submitted in English. American or British spelling can be used provided that only one spelling style is consistently used throughout. Manuscripts must be typewritten on A4 format (210x297 mm), with double spacing, margins of 25 mm, on one side only, consecutively numbered. Times New Roman font, 12-point size, is required.

Text headings
All headings in the text should be set over to the left-hand margin, and text should begin on the next line. Type first level (sectional) headings all in capitals. Second level headings should be typed in small (lower case) letters but with the first letter of each main word a capital. For third level headings, only the first letter of the first word should be a capital. Underline first and second level headings.

FIRST LEVEL TEXT HEADING
Second Level Text Heading
Third level text heading

Manuscripts should be divided into the following sections and order:
1. Title page, Abstract and key words, Introduction, Materials and Methods, Results, Discussion, Acknowledgements, References, Tables, Figure Legends and Figures.
2. Abstract must not exceed 250 words and should reflect the content of the study. Following the abstract, a list of 3-10 keywords is essential for indexing purposes.
3. Introduction containing a description of the problem under investigation and a brief survey of the existing literature on the subject.
4. Materials and Methods provide sufficient detail to allow the work to be reproduced.
5. Results. Results should be clear and concise.
6. Discussion that enriches but does not repeat Section 3 or 5.
7. Acknowledgements (if applicable) containing acknowledgement of technical help and of financial material support.
8. References should be numbered consecutively in the order in which they are first mentioned in the text. Identify references in text, tables, and legends by Arabic numerals in square brackets (e.g. [1], [2-6], etc.). Please note the following examples:

Journals:

Books:

9. Tables with suitable captions at the top and numbered with Arabic numerals should be collected at the end of the text on separate sheets (one page per Table). Footnotes to tables should be marked with a) b) c) etc and *, **, *** should be reserved for p values. Each table must be understood independently of the text. All tables must be cited in the text.

10. Figures (illustrations) Figures should be submitted on separate pages at the end of the article (new page for each complete figure). They should be numbered in the order of their appearance with Arabic numerals. Figures should be submitted as TIFF files at a proper resolution as follows: Graphs at 800-1200 dpi; Photos at 400-800 DPI; Color 300-400 DPI. Text in figures should be 8-10 point in size. Each figure must have a separate legend. The legends should not appear under the figures, but be gathered in a separate section (Figure legends). Color figures can only be printed if the author is prepared to pay the cost incurred.

11. Figure legends should be supplied at the end of the manuscript, double spaced, with relevant figure numbers, labeling symbol and explanation.

Units of measurement, Symbols and abbreviations
Symbols for physical units should be collected at the end of the text (if applicable) containing acknowledgement of

Nomenclature of Microorganisms
Binary names, consisting of a generic name and a specific epithet (e.g., Escherichia coli), must be used for all microorganisms.

Genetic Nomenclature
To facilitate accurate communication, it is important that standard genetic nomenclature be used whenever possible and that deviations or proposals for new naming systems be endorsed by an appropriate authoritative body.

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ABSTRACT

Worldwide, viral hepatitis chronic infections are a serious health problem and a very interesting topic for both clinicians and researchers. Viral hepatitis has a variety of clinical forms: mild, inactive or severe and with a slow evolution, whose architectural structure of the hepatic tissue evolves towards cirrhosis or hepatocellular carcinoma. Sometimes, the virally induced hepatic injury evolves spectacularly and rapidly leads to exitus. The factors that generate this evolution pattern depend on the immune response of the host and equally on the viral survival and immune surveillance avoidance strategies. This paper aims to resume new discoveries in the field of immunology of the B and C viral hepatitis infection, from the perspective of the complex interactions between virus and host.

Keywords: immune response, chronic viral hepatitis, cellular adhesion molecules, matrix metalloproteinases

REFERENCES


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CORRELATION OF ANTI-HELICOBACTER PYLORI CagA IgG ANTIBODIES WITH RESISTANCE TO FIRST LINE TREATMENT, BLEEDING GASTRODUODENAL ULCERS AND GASTRIC CANCER

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ABSTRACT

Helicobacter pylori was recognized in 1994 as a class I carcinogen by the International Agency for Research on Cancer (IARC). The prevalence of H. pylori infection varies from 20 to 50% in industrialized countries to over 80% in developing countries. The cagA strains are more virulent than others, being able to induce morphological changes, vacuolization and degeneration of in vitro cultured cells. Aim: During this study we investigated the possible correlations between the presence of H. pylori cagA (cytotoxin associated gene antigen)-IgG antibodies and the severity of clinical and endoscopical findings. Methods: Anti-cagA IgG was screened by ELISA in 104 selected patients exhibiting resistance to first line therapy for H. pylori, bleeding gastroduodenal ulcers, non cardia gastric cancer and gastric polyps. Results: A statistically significant association between resistant cases to first line therapy for H. pylori, bleeding gastroduodenal ulcers, non cardia gastric cancer, gastric polyps and cag A IgG antibodies (p value 0.02 calculated by T-Test) was observed. As Cag A antibodies titer persist up to four months, their level could be an useful marker in detecting previous long-term H pylori infection especially in gastric cancer patients. Conclusions: CagA positive H. pylori are virulent strains and the cagA IgG antibodies titer is associated with persistence of infection after treatment, upper gastroduodenal ulcers or gastric cancer. The presence of these antibodies, associated with positive biopsy for H. pylori, indicates the need of H. pylori treatment.

Keywords: Helicobacter pylori cagA IgG antibodies, non cardia gastric cancer, bleeding gastroduodenal ulcer, resistance to treatment

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INFLUENCE OF ORTHODONTIC TREATMENT ON ORAL STREPTOCOCCI

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ABSTRACT

Objective of this study is to evaluate the changes of the oral microbial flora, concentrating on the oral streptococci, after the first 3 and 6 months of orthodontic treatment.

Materials and methods. 40 patients, aged 7-17, that presented for orthodontic treatment between April and September 2010 in the Department of Orthodontics and Dento-Facial Orthopedics of “Carol Davila” University of Medicine and Pharmacy, Bucharest have been selected. According to the protocol, coronary and subgingival plaque was collected from the dental surface before starting any orthodontic treatment (T0), 3 months after wearing orthodontic appliances (T1) and 6 months after wearing orthodontic appliances (T2). The samples were studied in Cantacuzino National Institute of Research-Development for Microbiology and Immunology [isolation on Columbia agar with 5% sheep blood, identification on morphotinctorial, growth and biochemical characteristics using API 20 STREP (BioMerieux)]. Bacterial concentration (colony-forming units/sample = CFU/sample) for the aerobic and anaerobic flora was calculated by the serial dilution method of counting bacteria.

Results. 106 strains of oral streptococci were isolated from dental plaque, belonging to 6 species (Streptococcus mitis, Streptococcus oralis, Streptococcus mutans, Streptococcus salivarius, Streptococcus sanguis and Streptococcus acidominimus), 37 strains of oral streptococci in patients from group I (T0), 40 strains from group II (T1) and 29 strains of oral streptococci from group III (T2). After 3 months (T1) the aerobic bacteria percentage, detected at a concentration between $10^5$ and $10^6$, increased from 30 to 38.2%. The percentage of patients with a bacterial concentration higher than $10^6$ CFU/sample increased from 5% to 8.8%. The samples collected at T2 (patients examined after 6 months of orthodontic treatment) presented a lower bacterial concentration, as compared to group II (T1). The most common isolated species of streptococci were S. salivarius, S. oralis and S. mutans (37.5%, 22.5% and 10%), whose frequency increased after 3 months of treatment to 41.14%, 32.3% and respectively 14.4%, returning after 6 months of treatment at values similar to those recorded before beginning the orthodontic treatment.

Conclusions. Presence of orthodontic appliances may produce a transitory increase of bacterial concentration (CFU/sample) and isolation rate of oral streptococci, returning to the level prior to the application of these devices after a time interval of several months.

Keywords: bacterial concentration, oral microbial flora, orthodontic appliances, S. mutans, S. salivarius, S. oralis.

REFERENCES


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ABSTRACT

There is relevant evidence concerning the involvement of endothelial progenitor cells in neovascularization and wound healing. In this study we investigated the effects of sevoflurane, a volatile anesthetic with proven cardioprotective virtues, on the mobilization of bone marrow mononuclear cells with endothelial progenitor markers (CD34+, flk-1+), an event that may account for the protective effects of delayed anesthetic preconditioning. Male Wistar rats were treated with a mixture of air and sevoflurane (1 MAC) in cycles of 5 minutes, alternating with 5-minutes wash-out periods (the preconditioned group), or ventilated for 30 minutes with room air (control group). Following flow cytometry and immunofluorescence measurements, a considerable increase in circulating CD34+, flk-1+ and CD34+/flk-1+ cells was observed in the preconditioned group beginning at 12 hours after treatment, with a peak value at 24 hours after sevoflurane administration. These cells are a potential source of myocardial regeneration in the context of perioperative or periprocedural ischemia in patients with coronary artery disease.

Keywords: endothelial progenitor cells, anesthetic preconditioning, sevoflurane.

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* Corresponding author: Leon Zagrean, e-mail: leon.zagrean@gmail.com
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ABSTRACT

High-mobility group box protein 1 (HMGB1) is an intracellular protein that may be released actively from monocytes and macrophages or passively from necrotic or damaged cells. Its inhibition in animal experiments, even in the late phase of septic shock, significantly enhanced the survival rate of rodents. The aim of our study was to investigate the effect of a vegetal fraction isolated and highly purified from Helleborus purpurascens regarding the modulation of HMGB1 release either from tumor cells or human blood mononuclear cells. Our results showed that the vegetal fraction was able to down-regulate the release of HMGB1 from activated human blood mononuclear cells (PBMCs) and tumor cells. By combining the purified fraction with Cyclophosphamide the release of HMGB1 from tumor cells was strongly decreased. This synergism was not noticed when the vegetal product was associated with Doxorubicin. We also studied the effect of the purified fraction in mice with septic shock induced by cecal ligation and puncture (CLP) method. The tested vegetal product increased significantly the survival rate of animals compared to the mice not treated with it. Our data suggest that the purified vegetal fraction may modulate inflammation by down-regulating the HMGB1, which can also explain its efficacy in septic shock in mice.

Keywords: vegetal fraction, Helleborus purpurascens, HMGB1, cecal ligation and puncture

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A highly purified vegetal fraction able to modulate HMGB1 and to attenuate septic shock in mice

IS INTERLEUKIN -17 A PROATHEROGENIC BIOMARKER?

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ABSTRACT

The importance of chronic inflammation in atherogenesis and cytokine involvement in all stages of atherosclerotic plaque development is now obvious. Our approach of the significant cytokines involved in atherogenesis or cardiovascular diseases is based on a correlation between clinical research and experiments on animal models. The contribution of IL-17 in atherogenesis remains controversial.

In this study we investigated the role of IL-17 in cardiovascular diseases and in atherosclerosis associated with pathological aging. We performed a case-control study, enrolling subjects aged over 65 years in both groups. We included 40 patients with cardiovascular disorders and 10 healthy volunteers. IL-17 levels were measured in the serum of patients and healthy controls, along with serum total cholesterol and triglycerides.

Significantly higher levels of IL-17 were obtained in patients compared to healthy controls (p < 0.001). The level of this biomarker correlated significantly with two biochemical parameters - serum total cholesterol and triglycerides (the Pearson coefficient showed statistical significance, p = 0.033, respectively p = 0.043). We did not find any correlation between IL-17 and these two parameters in the control group.

Our study is useful in understanding the physiopathological implications of IL-17 in the atherogenesis process. This could represent a starting point for future studies, including research regarding the therapeutic potential of IL-17 in pathological aging.

Keywords: cytokines, aging, biomarker, atherosclerosis, IL-17

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HEPATITIS B, C AND D COINFECTION IN HIV-INFECTED PATIENTS: PREVALENCE AND PROGRESS

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ABSTRACT
The HAART therapy has improved life expectancy enabling long latency conditions caused by the hepatitis viruses that became the leading cause of death in HIV infected patients.
In this study a group of 300 patients aged from 18 to 63 years were selected in order to assess the prevalence and consequences of HIV and the hepatitis B (HBV), C (HCV) and D (HDV) viruses coinfections. Study groups were designed for each coinfection. These groups were in turn divided in case groups formed of coinfected participants and control groups consisting of mono-infected participants.
This classification was obtained by testing the participants for the presence of specific infection markers using the ELISA technique. As a result, in regard to the HIV/HBV coinfection the study group consisted of 16 coinfected participants and 114 HBV-infected participants resulting in a prevalence of the coinfection of 14%. In the case of the HIV/HDV coinfection the study group consisted of 5 coinfected participants and 45 HDV-infected participants. The prevalence of the HIV/HCV coinfection was 25% out of the 170 HCV-infected participants.
The effect of the coinfections on the expression and levels of the infection markers was analyzed in constrast to those encountered in the case of the mono-infection. The observed changes in the expression of the specific hepatitis markers indicate the impact of the coinfection with HIV on the progression of the hepatitis infections. In addition, the inadequate immune response towards the hepatitis viruses in the case of the coinfected participants leads to the development of cirrhosis and end stage liver disease.

Keywords: HAART, HIV, HBV, HCV, HDV, coinfection, ELISA

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THE GUT MICROBIOTA IN THE METAGENOMICS ERA: SOMETIMES A FRIEND, SOMETIMES A FOE

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ABSTRACT

The normal intestinal microflora (microbiota) represents a complex, dynamic, and diverse collection of microorganisms, which usually inhabit the gastrointestinal tract. Normally, between this flora and the human host a mutually beneficial long-term symbiotic relationship is established, where the host contributes essential nutrients necessary for the survival of the microbiota and the latter fulfils multiple roles in host nutrition and development. Several achievements have recently converged to renew interest in studying the normal gut microbiota: the development of molecular methods of studying the microbial communities, the improved understanding of host-microbe interactions in health and disease, and the potential for therapeutic manipulation of the microbiota. We present recent data concerning the molecular technologies of studying the microbiota and new findings regarding the composition of the normal flora. We underline the beneficial activities of the gut flora on the human host. We emphasize the recent findings in the alterations of the microbiota in various medical conditions (celiac disease, irritable bowel syndrome, obesity, colorectal cancer, allergic disorders, and especially inflammatory bowel diseases). The results of these new studies suggest that changes of the microbiota could be linked to the etiopathogenesis of these diseases. These outstanding findings could be used for further diagnostic tools and/or therapy.

Keywords: gut microbiota, metagenomics, metabolomics, inflammatory bowel disease, celiac disease, irritable bowel syndrome, colorectal cancer, allergic disorders

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Keywords: gut microbiota, metagenomics, metabolomics, inflammatory bowel disease, celiac disease, irritable bowel syndrome, colorectal cancer, allergic disorders

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The gut microbiota in the metagenomics era: sometimes a friend, sometimes a foe


