14th World Congress on

Infection Prevention and Control

December 06-07, 2018 | Valencia, Spain

Workshop

Day 1

conferenceseries.com

Ionel Victor Pătraşcu, J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C6-053

14th World Congress on

Infection Prevention and Control

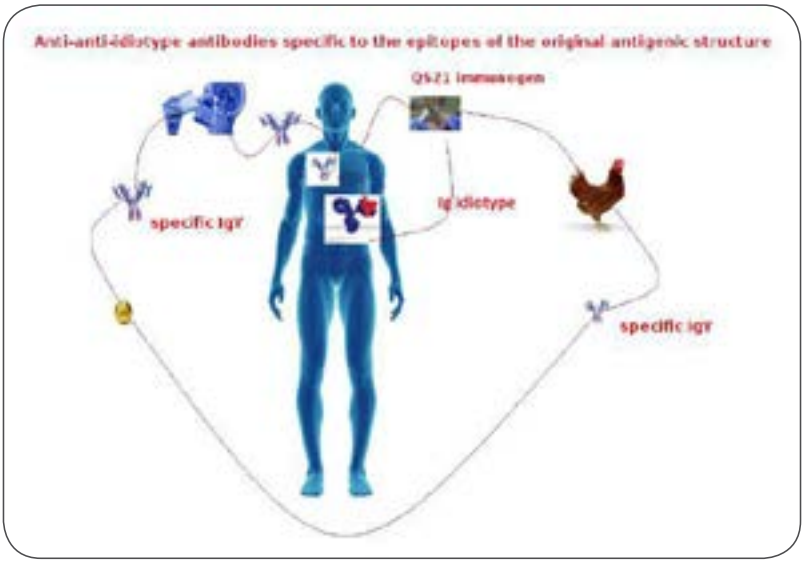
December 06-07, 2018 | Valencia, Spain

Ionel Victor Pătraşcu

Activeimmunity srl, Romania

Chicken immunological active protein (CIAP). The immunoVIP (IVIP)group of products from an integrated perspective: Applicative research, transfer of technology, productions, clinical use

Activeimmunity specialists, due to having extensive experience in the field of antibiotic resistance, have produced different generations of antimicrobial biologicals using hen as the immunized organism and the hyperimmune egg as the source of immunologically active proteins. The first generation of products were prepared using the I-PC-2 immunogens and the following generations using the I-SPGA and I-Gary immunogens. The "standard" biological products obtained from hyperimmune eggs contain up to 24 types of antibodies originating from immunization of hens with hospital-collected germs and are used in medical programs for the prevention and treatment of infections with susceptible or antibiotic resistant bacteria. The second category of biological products, the "personalized" ones, are prepared from samples of pathological material harvested from individual patients The idiotype (Id) of an antimicrobial resistant bacterium (ARB) is a unique collection of antibodies produced by the immunized organism against the bacterial antigenic determinants called idiotopes. An idiotype is specific to a particular ARB strain that immunized the organism. Despite being proteins of the humoral immune system, the idiotypes (Ids) can be immunogenic. For this reason ARB-specific Ids have been exploited as therapeutic immunogens in the treatment of specific ARB infected patients. The authors are not aware of documented studies describing the use of hyperimmune eggs targeting antibiotic-resistant bacteria as oral anti-idiotypic vaccine in human beings. We supported this hypothesis by demonstrating the capacity of human beings orally fed hyperimmune eggs to induce systemic immune responses against the same idiotype (active immunity by passive immunity). The first set of study was to demonstrate that chicken that were immunized with the inactivated antimicrobial-resistant bacteria (ARB) produced specific anti-ARB antibodies; the second set of study was to demonstrate that ARB-infected patients presenting clinical symptoms, after being fed anti-ARB hyperimmune eggs developed antibodies that were able to inhibit the binding of egg yolk anti-ARB antibodies to the ARB (original antigen), showing that the anti-ARB antibodies raised in human beings after feeding, were anti-anti-idiotypic antibodies [1,2]. The samples of bacterial strains and cells were collected as skin-scrapings, prostate, urine or sputum samples from clinically affected subjects. Moreover, nasal swabs were taken to determine the nasal colonization with Staphilococcus aureus. These samples were processed in the laboratory and used for immunization of specially bred chickens for this program. The immune response of the immunized chickens was controlled by blood and egg samples. The chicken immunologically active proteins (CIP) were isolated from the hyperimmune eggs and were then used for the treatment of the particular patients from which the pathological materials originated. These technologies have been carried out for the first time in the world and they prove that personalized biologic products may act specifically and efficiently in case of infections with specific pathogenic germs sensitive or resistant to antibiotics. These new personalized biological products may replace antibiotics which have been proved inefficient in each patient. The treatment with the hyperimmune egg and with the products extracted from it was well tolerated by patients for a long period of time (at least 12 months). Activeimmunty has a telephone call center and a group of specialists who are available for information, a clinic and laboratories specifically designed for this program, in order to prepare the described personalized biological products.



Recent Publications

1. Angel Alberto Justiz Vaillant, Patrick Eberechi Akpaka, Norma McFarlane-Anderson, Monica P. Smikle and Wisdom Brian. The Chicken and Egg System for the Development of Anti-Idiotypic Vaccines. J Vaccines Vaccin 2012; 3:137; doi: 10.4172/2157-7560.1000137
2. JustizVaillant AA, Akpaka PE, Smikle M, McFarlane-Anderson N. In vitro Inhibition of Staphylococcus aureus Isolates by Anti-Anti-Idiotypic Antibodies to Staphylococcal Protein (SpA). J Vaccines Vaccin, 2012; 3: 127; doi: 10.4172/2157-7560.1000127
3. Pătrașcu Ionel Victor, MVD, PhD. Active immunity by passive immunity. I-spga as a new Immunogen. A Modest Contribution to the Fight Against the Antimicrobial Resistance. SDG Lab, Davos, January 24, 2018; World Economic Forum Annual Meeting 23-26 January 2018, Davos-Klosters, Switzerland
4. Pătrașcu I.V., Chiurciu C., E. Ceausu, Viorica Chiurciu, Iuliana Mihai, Lazar S., Maria Nica, Sima Lucica
5. Andreia Dinu, Badica I., Georgiana Radu. Oral immunotherapy with personalized chicken immunoglobulins- the first method for treatment of human patients infected with antibiotic resistance bacteria. Davos, 24 January 2018:47

Biography

Ionel Victor Pătrașcu MVD, PhD president of Activeimmunity, born on February 7, 1937. Graduated in Veterinary Medicine in Bucharest in 1963. Researcher in the field of virusology at Pasteur Institute in Bucharest. Made different specializations in the field of avian and human oncogenic viruses at Houghton Poultry Research Station, Huntington, England, at Friedrich-Loeffler- Institut, Celle, Institute of Animal Pathology in Rotherdam, Netherlands, Cornell University Ithaca NY and Athens University, Athens, GA. USA. In 1971 discovered to extract Fc 126 cell associated as cell free in SPGA and allowed to freeze-dry vaccine anti Marek disease lymphoma. He made the first research Center in the world at Voluntari, Romania, called Avian Tumor Viruses Lab, where specialists from England, U.S., France, Bulgaria, the German Democratic Republic, Hungary, the USSR, and China came to do studies in the period of the Iron Curtain and communist politics from Moscow. In 1989 discovered the largest outbreak in the world of HIV infection and AIDS in children in Romania. Studied antibiotic resistance of microorganisms and made first immunogen I-PC2 used biological preclinical and clinical human studies and the second generation of immunogen I-spga that was managed to prepare IMUNOVIP able to react specifically with superbugs infection by oral treatment of antibiotic-resitant urinary tract infections in women. During 1965-2017 he dealt with the training of specialists who are now valuable researchers, professors and academics.

patrascu_john@yahoo.com

14th World Congress on

Infection Prevention and Control

December 06-07, 2018 | Valencia, Spain

Scientific Tracks & Abstracts

Day 1

Infection Prevention 2018

Day-1

SESSIONS

Immunization | Nosocomial Infections & Control | Pulmonary Infection Therapy | Infection Prevention and Control | Hospital Infections and Epidemiology | Personal Hygiene Practices | Blood Borne and Exposure Control

Chair: Julian Hunt, Swansea University, UK
Chair: Francesca J Torriani, University of California, USA

SESSION INTRODUCTION

Title: Hand hygiene perception survey among healthcare workers in a tertiary hospital in Oman
Sumaiah Farook, Apollo Hospital Muscat, Oman

Title: Infection prevention control and organisational patient safety culture within the context of isolation: Analysis from phase 1 maPSaF workshops
Julian Hunt, Swansea University, UK

Title: Treatment outcomes and their association with type of resistance among drug resistant tuberculosis patients during 2014-2015 in Punjab, Pakistan: A retrospective cohort analysis
Usman Rasool Lodhi, Provincial Tuberculosis Control Program–Punjab, Pakistan

Title: A case report on a rare case of tuberculosis of the pancreas presenting as pancreatic mass
Manuel R Velasco, VRP Medical Center, Philippines

Title: The use of chicken immunologically active proteins (CIAP) for the treatment of bone, joint and soft tissue infections with antimicrobial resistance (AMR) germs in Romanian patients
Costin Aurel Militarul, Activeimmunity srl., Romania

Title: Effect of lactoferrin-derived synthetic peptides on salmonella enterica ATCC 14028 planktonic cells and biofilms
Nidia Leon-Sicairos, Hospital Pediatrico de Sinaloa, Mexico

Sumaiah Farook, J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C6-053

Hand hygiene perception survey among healthcare workers in a tertiary hospital in Oman

Sumaiah Farook
Apollo Hospital Muscat, Oman

The study aims at identifying the reasons for a plateau compliance rate of 66% in spite of having implemented a strong hospital hand hygiene program. This was a quantitative study to address the issue of hand hygiene compliance among healthcare workers by assessing their perception towards the hand hygiene program at the hospital through a survey and focus group discussions. A total of 250 healthcare workers were included in the survey. The target population included doctors: interns, residents/medical officers and consultants/specialists, along with 150 nurses: unit and staff nurses. The focus group discussions facilitated a debate regarding the current program and the challenges faced by the staff in their role as the end users. The P value was calculated based on these results using a Chi square test. The P value calculated based on the audit was 0.28 with a significance of 0.05 calculated to two degrees of freedom. The $\chi 2$ value was 2.52. A 92.4% participation rate was recorded and significant differences were noted in the perception of hand hygiene between junior and senior staff. Areas of poor scores were elaborated on in the focus group discussions to understand reasoning behind the responses and reach a consensus on the best way to tackle the issues faced. The study highlights the success of the hospital wide hand hygiene program while underscoring the areas for improvement and concern, the need for constant hand hygiene education and intervention in a large hospital in spite of having an established program and establishes a benchmark for further studies in hand hygiene compliance.

Biography

Sumaiah Farook is the Head of Infection Prevention and Control at Apollo Hospital Muscat in the Sultanate of Oman and was formerly employed with the Royal Hospital, Oman. Somayeh is a member of the American Public Health Association (APHA). Her primary focus of study has been antimicrobial resistance and she is passionate about her study of multi drug resistant organisms and healthcare associated infections. Of particular focus is her work in collection of epidemiological evidence in surgical site infections and implementation of the Oman National Antimicrobial Guidelines. She has been a part of the launch of the National Antimicrobial Stewardship Program in Oman where her data on antimicrobial surgical prophylaxis was one of the few presented studies. As an infection preventionist, she is a strong advocate of hospital hygiene standards and their role in lowering infection rates.

sumaiahshakir@gmail.com

Julian Hunt, J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C6-053

Infection prevention control and organisational patient safety culture within the context of isolation: Analysis from phase 1 maPSaF workshops

Julian Hunt
Swansea University, UK

Introduction: Healthcare Associated Infection (HCAI) is a major cause of morbidity and mortality. HCAI remains a costly burden to health services, a source of concern to patients and the public and at present, is receiving priority from policy makers as it contributes to the global threat of antimicrobial resistance. This presentation introduces a new study that explores the ways in which adherence to IPC strategies and principles inform and shape organisational patient safety culture and vice versa.

Methods: The study involves qualitative case studies within isolation settings at two district general hospitals within one health board in Wales, UK. The study incorporates Manchester Patient Safety Framework (MaPSaF) workshops, interviews with health workers, other hospital staff, patients and their relative / carer, and periods of hospital ward observation.

Results: This presentation offers analysis drawn from the Phase 1 MaPSaF workshops. MaPSaF is designed specifically for use in the NHS and provides a view of safety culture on 10 dimensions at 5 progressive levels of safety maturity. The utilisation of MaPSaF in this study has enabled the generation of a profile of maturity of patient safety culture within each hospital setting in terms of areas of relative strength and challenge.

Discussion: Understanding the ways in which IPC is presented, implemented and engaged with by health workers and what that means for organisational patient safety culture, is essential to driving improvements in healthcare and clinical practice. This study offers an understanding of the meaning of IPC 'ownership' for health workers; of the ways in which IPC is promoted, of how IPC teams operate as new challenges arise, how their effectiveness is assessed and of the positioning of IPC within the broader context of organisational patient safety culture, within hospital isolation settings.

Biography

Julian Hunt is a Research Officer at Swansea University. He is a sociologist with particular interest in ethnographic and participatory research methods. He has previously worked on a number of health and mental health studies, including the Welsh Assembly Government's Sustainable Health Action Research Programme (SHARP) - An action research initiative that focused on health inequalities and community health development. He has combined this with a keen interest in historical sociology and the impact of class and place upon social, cultural and economic life. Dr Hunt has experience of working with quantitative research methods and analysis..

J.Hunt@Swansea.ac.uk

Usman Rasool Lodhi, J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C6-053

Treatment outcomes and their association with type of resistance among drug resistant tuberculosis patients during 2014-2015 in Punjab, Pakistan: A retrospective cohort analysis

Usman Rasool Lodhi
Provincial Tuberculosis Control Program – Punjab, Pakistan

Tuberculosis still the deadliest infectious disease among all communicable infections and DRTB remains an evil for low income countries like Pakistan. Irrational use of second line drugs including fluoroquinolones and second line injections along with lack of proper awareness to both level community and treatment provider, less number of diagnostic and treatment centers, poor adherence to treatment, primary default, infection prevention and lack of technical resources in Punjab may lead to rise in incidence of DRTB. To find out treatment outcomes and their associations with type of resistance among DRTB patients in Punjab, retrospective cohort analysis was done. Of the total bacteriologically confirmed DRTB registered patients at various PMDT sites across Punjab, n=2046 patient's records were analyzed. Bivariate analysis shows a significant positive association (relative risk [RR] 1.7 & p-value = < 0•001) between type of resistance and treatment outcome in DRTB patients. Overall treatment success rate for DRTB in Punjab was 61.14% and favorable outcomes including cured and treatment completed were 59.4% and 1.7% respectively. While the unfavorable treatment outcomes including died, LTFU, not evaluated, treatment failure were 22.3%, 9.7%, 3.5%, and 2.7% respectively. Scale up DRTB surveillance activities, contact screening, integration of DRTB with other public health programs, active case finding among populations will have a positive impact on drug resistance tuberculosis case notification and control over spread of diseases.

Biography

Usman Rasool Lodhi working as a Provincial MDR-TB Coordinator, and done his research in College of Physicians & Surgeons Pakistan and University of Health Sciences, Punjab. Currently he is involved in two more research studies related to DRTB in Punjab. He also supports implementation of National Guidelines for PMDT in Punjab along with technical assistance regarding regimen selection especially on New Drugs and Short Term Regimen for MDR-TB. Before joining PTP, he also worked with Association for Social Development as a Regional Coordinator and MDR Physician. Since 2013 he is working in public health intervention Program related to Drug Resistant TB.

mdrunitptp@gmail.com

Notes:

Manuel R. Velasco Jr, J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C6-053

A case report on a rare case of tuberculosis of the pancreas presenting as pancreatic mass

Manuel R Velasco Jr
VRP Medical Center, Philippines

Statement of the Problem: Tuberculosis is an ubuiqitous organism that attacks all organ tissues of its host. Abdominal TB accounts for about 5-12% of patients with tuberculosis and is most common in developing countries. Autopsy studies have shown that the pancreas is affected by about 2.1-4.7% of those with miliary tuberculosis. Pancreatic tuberculosis is a rare condition that can present mimicking signs and symptoms of pancreatic malignancy and in abdominal imaging as pancreatic mass. The purpose of this study is to report a rare case of Pancreatic Tuberculosis in an immunocompetent Filipino, Male.

Methodology & Theoretical Orientation: A literature search and review was done to extract information about Pancreatic Tuberculosis' prevalence and incidence, diagnostic approach and treatment approaches considering both international and local guidelines.

Findings: Pancreatic tuberculosis is a rare condition that can present mimicking signs and symptoms of pancreatic malignancy and in abdominal imaging as pancreatic mass. It occurs in the setting of miliary tuberculosis, most frequently in immunocompromised patients, very rarely in immunocompetent. Pancreatic tuberculosis was first reported in 1944 by Auerbach et. al. His study of 1656 autopsies revealed 14 cases with pancreatic involvement but none with isolated pancreatic tuberculosis.6 Reported cases of Pancreatic tuberculosis from 1966 to 2004 in a MEDLINE search of English language articles around 116 cases of pancreatic tuberculosis were identified. From 2005 up to 2014, based on PUBMED search using the MeSH terms "Tuberculosis" and "Pancreas" including literature from English and other languages, there were 49 case reports and 11 case series which include about 164 patients identified. From 2015 until 2018, using the same search engine, there were 5 case reports and 1 case series(5 cases). Based on Google Scholar search, there were 6 cases of pancreatic tuberculosis reported and published.

Conclusion & Significance: Pancreatic tuberculosis is a rare infection most especially in an immunocompetent host. It must be considered in patient presenting to have signs and symptoms of pancreatic malignancy and with radiographic findings of pancreatic mass. It is must be entertained in patients living in areas where Tuberculosis infection is endemic. The treatment of Pancreatic tuberculosis is straightforward and follows treatment protocol for extra-pulmonary tuberculosis infection. It is therefore necessary to confirm diagnosis histologically because response to therapy is predictable and complete with full compliance to regimen.

Recent Publications

1. Velasco M(2018) A Case Report on Warfarin-Induced Spontaneous Sub-Mucosal And Mesenteric Hematoma In The Gastrointestinal Tract (Small Bowel) Causing Bowel Obstruction. International Digestive Disease Forum. Abstract No. IDDF2018-ABS-0258.

Biography

Manuel R Velasco Jr is a 2nd year medical resident in internal medicine in the Philippine and has a degree of Bachelor of Science in Nursing as pre-medicine. Worked as a fulltime nurse, a certified infection control nurse, and became a clinical and academic teacher in nursing school prior to becoming a doctor for adult. He is a research enthusiast and was able to win interdepartmental research contest and has publish a case report in Hong Kong.

drmanuelrvelascojrrn@yahoo.com

Costin Aurel Militarul et al., J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C6-053

The use of chicken immunologically active proteins (CIAP) for the treatment of bone, joint and soft tissue infections with antimicrobial resistance (AMR) germs in Romanian patients

Costin Aurel Militarul, Patrascu Ionel Victor, Liliana Viasu, Anca Maria Petrini, Maria Serdarub and **Ilies-Rares Preutu**
Activeimmunity Srl., Romania

Introduction: Infections with antimicrobial resistance (AMR) germs are a strong concern of present medical practice, imposing a stringent need for efforts to identify alternative treatment approaches. Chicken Immunologically Active Proteins (CIAP) including Immunoglobulin (Ig)-Y represent powerful tools obtained from the eggs of chickens immunized with antigens of the hospital-isolated AMR germs (1-3). This study presents the use of CIAP in AMR infections of bones, joints and soft tissue in Romanian patients.

Patients group: We have performed a study on 8 patients (6 male and 2 female) aged 43 to 72 years with AMR infections of bones, joints and soft tissue of the lower limbs and with diverse superposed debilitating pathologies (uncontrolled diabetes mellitus, high blood pressure, atheromatous arteriopathy) that were treated orally and topically with CIAP. Patients were subjected to thorough medical investigations including haemoleucogram, inflammatory markers, glycemia, liver and kidney function tests, vascular imaging, lower limb radiographs, microbiological culture from wounds and pus collections. In diabetic patients, glycemic control was acquired by insulin or oral antidiabetic drugs administration and in one patient the blood flow to the affected lower limbs was restored by axillary-bi-iliac by-pass. Orthopedic surgery was performed in order to correct bone and joints pathology.

Results: The evolution was favourable after orthopedic surgery in all patients treated orally and topically with CIAP in the absence of any simultaneous antibiotic treatment, thus salvaging the affected inferior limbs. CIAP treatment led to buildup of bone, remodelling of soft tissue and recovery of independent ambulatory capabilities. The obtained results are very suggestive of the immunomodulatory actions and treatment potency of CIAP products in infections with AMR germs in humans.

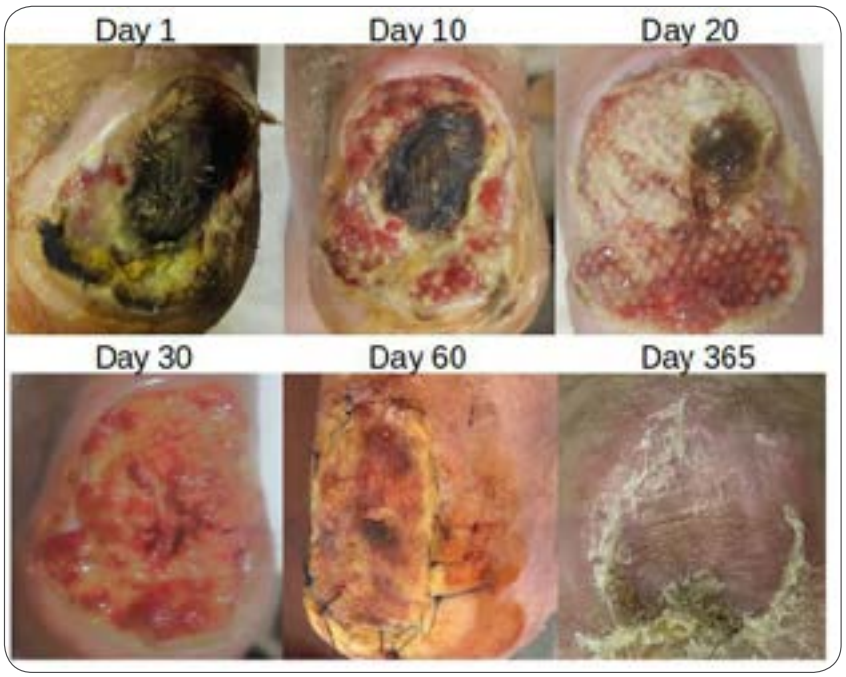


Figure 1: Salvage of inferior limb in a representative patient with diabetes mellitus, high blood pressure, bi-iliac arterial occlusion, calcanean necrosis infected with antibiotic resistant Pseudomonas aeruginosa, after axillary-bi-iliac by-pass, necrotic bone resection, IMUNOINSTANT MULTIPLU (CIAP) oral and topic administration, without additional antibiotic treatment

Recent Publications

1. Schade R, Pfister C, Italatsch R, Henklien P. Polyclonal antibodies from chicken egg yolk-an alternative to the production of mammalian IgG type antibodies in rabbits. ATLA. 1991, 19: 403-419.
2. Patrascu Ionel Victor. Active immunity by passive immunity. 2017 Annual Session of the Romanian Academy.
3. Pătrașcu Ionel Victor. Active immunity by passive immunity. I-spga as a new Immunogen. A Modest Contribution to the Fight Against the Antimicrobial Resistance. SDG Lab, Davos, January 24, 2018, World Economic Forum Annual Meeting, 23-26 January 2018, Davos-Klosters, Switzerland, Media Tenor Global Agenda.

Biography

Costin Aurel Militarul is having more than 20 years of clinical practice. The complicated cases of frail patients with debilitating pathologies including infections with antimicrobial resistance (AMR) germs that he encountered during his clinical practice fueled his interest in the collaboration with scientists developing chicken imunologically active protein (CIAP) products.

militaru.costin@gmail.com

Notes:

Nidia Leon-Sicairos et al., J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C6-053

Effect of lactoferrin-derived synthetic peptides on *Salmonella Enterica* ATCC 14028 planktonic cells and biofilms

Nidia Leon-Sicairos[1,7], Angulo-Zamudio Uriel.[2], Canizalez-Román Adrian[1,5], Bolscher Jan G.M.[3], Nazmi Kamran[3], Flores-Villaseñor Héctor[1], Velazquez-Román Jorge[1] and **Vidal-Graniel Jorge[6]**

[1]CIASaP, Facultad de Medicina, Universidad Autónoma de Sinaloa, México.
[2]Facultad de Ciencias Químico Biológicas Universidad Autónoma de Sinaloa Av. de las Américas y Josefa Ortiz, México.
[3]University of Amsterdam and VU University, 1081 LA, Amsterdam, The Netherlands.
[4]Departmento de Biología Celular, México
[5]Hospital de la Mujer de la Secretaria de Salud, México.
[6]School Medicine, Emory University, Atlanta, Georgia, USA.
[7]Hospital Pediátrico de Sinaloa. Blvd, México

Salmonella enterica is a Gram-negative bacterium responsible of salmonellosis, a gastrointestinal infection that causes 550 million cases each year, from which 220 million are children less than 5 years. In fact, *S. enterica* is one of four major etiological agent of diarrhea; worldwide. To cause infection, this bacterium contains a lot of virulence factors such as capsule, lipopolysaccharide, enterotoxins, and the capacity to forms biofilms. It has been reported that biofilm structure protects Salmonella from immune system cells and antibiotics action. Therefore, the development of new antimicrobials and anti-biofilms agents to combat salmonellosis are needed. In this work, we investigated the bactericide and biofilmicide effect of bLF and the peptides Lactoferricin17-30, D-Lactoferricin17-30, Lactoferrampin265-284, D-Lactoferrampin265-284 and LFchimera on *Salmonella enterica*. Materials and Methods: Strains of *Salmonella enterica* were incubated with bLF, LFcin17-30, D-LFcin17-30, LFampin265-284, D- LFampin265-284, LFchimera and gentamicin in different concentrations during 2 h. Then, the viability of cultures was assessed by determination of colony forming unit/ml. To form biofilms, strains of *Salmonella* were incubated for 12 (mature) or 8 (immature), and then; biofilms were treated with bLF, LFcin17-30, D-LFcin17-30, LFampin265-284, D-LFampin265-284, and LFchimera, during 4 and 6 h. The effect of treatment on biofilms was assessed by colony counts (CFU/ml) and by Live/dead biofilms vitality kit. In addition; biofilms were visualized by florescence microscopy and fluorescence was measured. Results: bLF and synthetic peptides shown bactericide effect on salmonella, but bLF and LFchimera presented a greater effect. On the other hand bLF and LFchimera affected immature biofilms, but only bLF disrupted mature and established biofilms. Based in our results LF and LFchimera are alternative approaches that could prevent *Salmonella* colonization of the human host and perhaps against salmonellosis.

Recent Publications

1. Leon-Sicairos, N., Angulo-Zamudio, U.A., Vidal, J.E., Lopez-Torres, C.A., Bolscher, J.G., Nazmi, K., Reyes-Cortes, R., Reyes-Lopez, M., De La Garza, M., and Canizalez-Roman, A. 2014 Bactericidal effect of bovine lactoferrin and synthetic peptide lactoferrin chimera in *Streptococcus pneumoniae* and the decrease in luxS gene expression by lactoferrin. Biometals 27: 969-980.
2. Baker, E.N., and Baker, H.M. 2009 A structural framework for understanding the multifunctional character of lactoferrin Biochimie 91: 3-10.
3. Bolscher, J., Nazmi, K., Van Marle, J., Van 'T Hof, W., and Veerman, E. 2012 Chimerization of lactoferricin and lactoferrampin peptides strongly potentiates the killing activity against Candida albicans Biochem Cell Biol 90: 378-388.
4. Leon-Sicairos, N., Angulo-Zamudio, U.A., Vidal, J.E., Lopez-Torres, C.A., Bolscher, J.G., Nazmi, K., Reyes-Cortes, R., Reyes-Lopez, M., De La Garza, M., and Canizalez-Roman, A. 2014. Bactericidal effect of bovine lactoferrin and synthetic peptide lactoferrin chimera in *Streptococcus pneumoniae* and the decrease in luxS gene expression by lactoferrin. Biometals 27, 969-980.
5. 5. Rodriguez, A., Pangloli, P., Richards, H.A., Mount, J.R., and Draughon, F.A. 2006. Prevalence of *Salmonella* in diverse environmental farm samples. J Food Prot 69, 2576-2580.

Biography

Nidia Leon-Sicairos has her expertise in evaluation of proteins and peptides with antimicrobial and antitumoral activities such as lactoferrin and derived peptides. Her research is focus in to describe the mechanism for which lactoferrin and its peptides exert its microbicidal and antitumoral effects in vitro and in vivo. The pathogens and tumoral cells target for these studies are those that cause infections in immunosuppressed patients, and in cells derived from leukemia, mama and lungs. The idea is to have new compounds that can help to patients in the fight against cancer and infections linked to this group of diseases.

nidialeon@uas.edu.mx

Notes:

14th World Congress on

Infection Prevention and Control

December 06-07, 2018 | Valencia, Spain

Scientific Tracks & Abstracts

Day 2

Infection Prevention 2018

Day- 2

SESSIONS

Infection Control in Critical Care | Infection Control Risk Assessment | Plant Pathology and Diseases Control | Emerging and Re-Emerging Infections | Infection Control in Clinical Practice | Antimicrobial Chemotherapy | Infections During Pregnancy

Chair: Julian Hunt, Swansea University, UK
Chair: Francesca J Torriani, University of California, USA

SESSION INTRODUCTION

Title: Title: Chicken immunological active proteins (CIAP). The specific reaction against multiple resistance bacterial strains in urinary tract infections
Liliana Viasu, Teaching Hospital of Nephrology dr.Carol Davila, Romania

Title: Title: Chicken immunologically active proteins for the development of anti-idiotypic vaccines
Ioana Manea, Activeimmunity srl, Romania

Title: Title: *Staphylococcus Aureus* infections in psoriasis plaques
Violeta Ionescu, Active Immunity srl, Romania

Liliana Viasu et al., J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C6-053

Chicken immunological active proteins (ciap): The specific reaction against multiple resistance bacterial strains in urinary tract infections

Liliana Viasu[1], Ionel-Victor Pătraşcu[2], Maria-Anca Petrini[2], Mircea Nicolae Penescu[2], Carmen Balotescu-Chifiriuc[3], Maria Serdaru[1], Rareş-Ilieş Preutu[1], Manea Ioana[1]

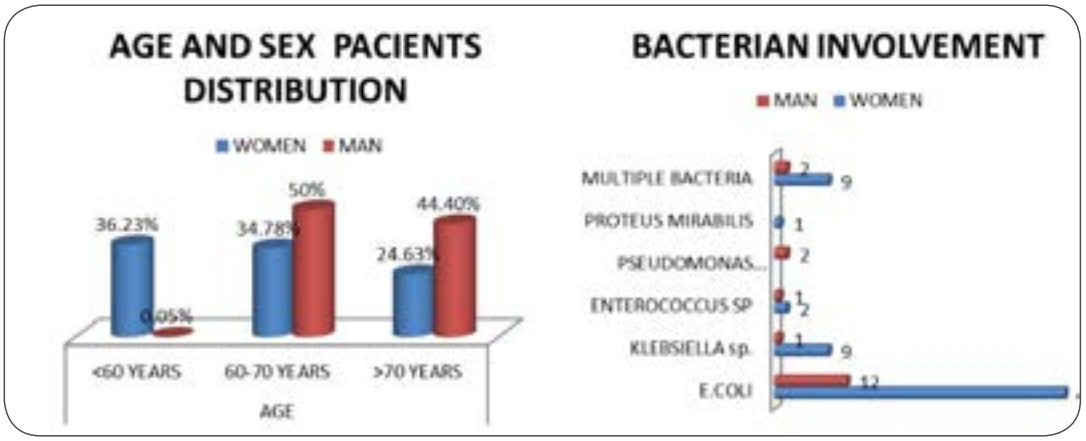
[1]Teaching Hospital of Nephrology dr.Carol Davila, Romania
[2]Activeimmunity srl, Romania
[3]University of Bucharest, Romania

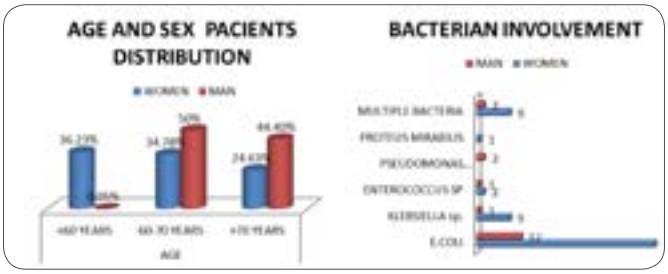
Statement of the Problem: The emergence of multidrug resistant bacteria in urinary tract infections (UTIs) is a challenge to medical professionals. According to ECDC (2018), more than a third of K. pneumoniae and half of *E. coli* strains reported were resistant to at least one of the antibiotics under surveillance. Moreover, the emergence of Colistin resistance among Enterobacteriaceae leave few therapeutic options against these"superbugs". Thus, immunological active proteins (IAP) have emerged as a potential therapeutic agent.

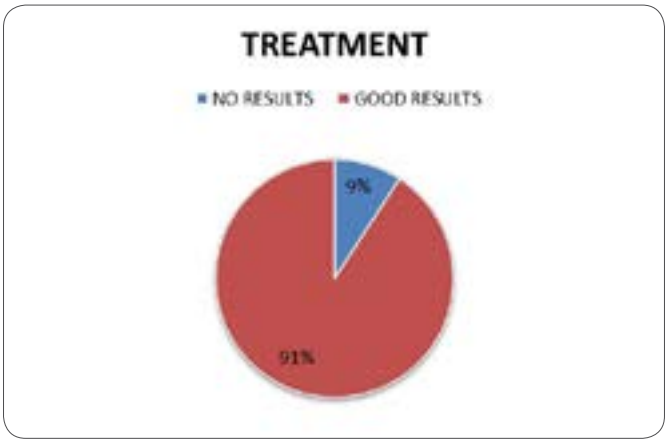
Material and methods: In this study, CIAP (egg proteins: IgY, holo-ovotransferrin, ovomucin, ovoalbumin and lysozyme) were obtained from Rhode Island red chickens immunized with antigens from *E. coli, Klebsiella pneumoniae, Enterococcus spp, Pseudomonas sp, Proteus sp, Candida sp*, and MRSA strains. 90 patients were included in the study, 87 of them compliant with the treatment; 20 were inpatients and 67 outpatients at Teaching Hospital of Nephrology dr.Carol Davila, Bucharest. 65% of them were known to have recurrent UTIs. The etiology of the UTIs: 68% E. coli, 12.6% multiple bacteria, 11.5% Klebsiella, 7.9% others. 35% of the isolates were MDR. CIAP efficiency was demonstrated in vitro by: quantitative assay for Chicken IgY ELISA Kit - ABCAM, rapid and slow agglutination test and bacterial growth inhibition test - HB&L ALIFAX (IAP + live bacterial cultures). CIAP were administered at diagnosis together with antibiotics, and as follow-up treatment for an average of 2 months.

Results: 8 patients were non-responsive (7F+1M), 79 were responsive as follows: 90% of the patients were cured with no recurrence, 10% had one recurrence during the study. For these patients, personalized treatment was made, using the strain isolated by urine culture after recurrence; the new treatment was curative.

Conclusion: Preliminary results reveal the possibility of using passive immunity to stimulate the active immunity in preventing infection recurrence and antibiotic resistance.







Recent Publications:

1. Wang Y, Tian GB, Zhang R, Shen Y, Tyrrell JM, Huang X, Zhou H, Lei L, Li HY, Doi Y, Fang Y, Ren H, Zhong LL, Shen Z, Zeng KJ, Wang S, Liu JH, Wu C, Walsh TR, Shen J – Prevalence, risk factors, outcomes, and molecular epidemiology of mcr-1-positive Enterobacteriaceae in patients and healthy adults from China: an epidemiological and clinical study, Lancet Infect Dis, 2017, 17(4), 390–399;
2. Sala C, Morar A, Morva AA – Antibiotic resistance of gram negative bacteria isolated from meat surface biofilm, Roum Biotech Lett, 2012, 17(4),7483-7492;
3. Branswell H – Superbug resistant to last-resort antibiotics turns up in Europe, Stat, December 3, 2015, https://www.statnews.com/2015/12/03/superbug-antibiotics-europe/;
4. Pătrașcu IV, Chiurciu V, Chiurciu C, Topilescu G-Procedure of production and application of chicken immunoglobulin [IgY],OSIM Patent no. A/00156 25.02.2014, see OSIM Official Monitor 7/2014, p.26;
5. Patrascu IV, Penescu M, Viasu L – Urinary tract infections (UTI) (2). Escherichia coli resistant to colistin and newly developed pathology, Romanian Academy Session, April 22, 2017.

Biography

Liliana Viasu MD, head of Laboratory at Teaching Hospital of Nephrology dr.Carol Davila ,Bucharest, Romania and scientific manager of Autoimmunity SRL. Born in 24th June 1970,graduated in University of Medicine and Pharmacy Carol Davila in Bucharest in 1998.Specialization in Laboratory Medicine, especially Immunology.20 years of research in autoimmunity, hematology, bone metabolism, immunological disorders also specialization in Translational Medicine. In the last 2 years participate at the program for Antibiotic resistance of microorganisms, preclinical and clinical human studies and the second generation of immunogen I-spga that was managed to prepare IMUNOVIP able to react specifically with bacteria by oral treatment of antibiotic-resistant urinary tract infections in women. All the latest studies were made in collaboration with Pătra□cu Ionel Victor, MVD, PhD president of Activeimmunity SRL.

lilianadanaviasu@gmail.com

Ioana Manea, J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C6-053

Chicken immunologically active proteins for the development of anti-idiotypic vaccines

Ioana Manea
Activeimmunity srl, Romania

Introduction: According to Jerne's network theory, antibodies contain in their variable region a representation of the 'universe' of antigenic structures, the idiotype. It is possible to induce antibodies against the antigen-binding site of other antibodies (2-6); these new antibodies, called anti-idiotypic (Ab2B), can be used to manipulate the immune system (1,5,6). They have been successfully used in the induction of humoral immune responses against several antigens including bacteria and viruses (2,3,5,6). Chicken Immunologically Active Proteins [CIAP] including Immunoglobulin (Ig)-Y, that are produced by immunizing chickens, have further advantages compared with mammalian IgG (1,2,5,6). This study investigates the use of the chicken and egg system for the development of an immune response against antimicrobial resistance (AMR) bacteria.

Methodology: Stage I: Brown leghorn chickens were immunized with I-spga immunogen which contained antigens from more than 20 inactivated AMR bacteria. Indirect ELISA was used to measure anti-bacterial antibody titers in the watery soluble fraction of eggs up to 14 weeks after the third immunization. Stage II: chicken groups have been formed that have individually consumed yolk or white egg from either hiperimune eggs or from eggs produced by unimmunized chicken. At the end of the experiment, presence of antibodies against original AMR bacteria was checked by ELISA in blood samples and eggs of birds used in the Stage II of the experiment.

Results: Antibodies against AMR bacteria were detected only in the blood and eggs of chicken that consumed hiperimmune eggs; these antibodies inhibited the growth of AMR bacteria in vitro.

Conclusion: The results of this study suggest that eggs from immunized hens could be considered as a CIAP source in the management of AMR infections. The chicken and egg system is a potential and novel approach for the development of anti-idiotypic vaccines that could prove useful in the treatment of microbial infections.

Specification	Chicken Immunological Active Proteins[b]			
	IgY	Ovotransferin	Ovoalbumin	Ovomucin
Pseudomonas aeruginosa	5/5[a]	5/5	5/5	2/2
MRSA	5/5	5/5	5/5	2/2
Klebsiella pneumoniae	5/5	5/5	5/5	2/2
Candida albicans	5/5	5/5	5/5	2/2

d) Positive/tested
e) Direct ELISA assay

Specification	Chicken Immunological Active Proteins[b]				
	IgY	Ovotransferin	Ovoalbumin	Ovomucin	Lisisim
Pseudomonas aeruginosa	14/14[a]	14/14	14/14	8/9	7/7
MRS A	14/14	14/14	14/14	10/10	4/7
Klebsiella pneumoniae	14/14	14/14	14/14	10/10	4/7
Candida albicans	15/15	14/14	14/14	10/10	ND[b]

a) Positive/tested
b) ND: not done
c) ND: not done

Recent Publications:

1. Vaillant et al., The Chicken and Egg System for the Development of Anti-Idiotypic Vaccines. J Vaccines Vaccin. 2012, 3 : 2-4.
2. Schade R, Pfister C, Italatsch R, Henklien P. Polyclonal antibodies from chicken egg yolk-an alternative to the production of mammalian IgG type antibodies in rabbits. ATLA. 1991, 19: 403-419.
3. Jerne NK. Towards a network theory of the immune system. Ann Immunol. 1974, 125: 373-389.
4. Justiz Vaillant AA, Akpaka PE, Smikle M, McFarlane-Anderson N. In vitro Inhibition of Staphylococcus aureus Isolates by Anti-Anti-Idiotypic Antibodies to Staphylococcal Protein (SpA). J Vaccines Vaccin. 2012, 3: 127-131.
5. Patrascu Ionel Victor. Active immunity by passive immunity. 2017 Annual Session of the Romanian Academy.
6. Pătrașcu Ionel Victor. Active immunity by passive immunity. I-spga as a new Immunogen. A Modest Contribution to the Fight Against the Antimicrobial Resistance. SDG Lab, Davos, January 24, 2018, World Economic Forum Annual Meeting, 23-26 January 2018, Davos-Klosters, Switzerland, Media Tenor Global Agenda Index :33.

Biography

Ioana Manea is having more than 20 years of clinical practice. The complicated cases of frail patients with debilitating pathologies including infections with antimicrobial resistance (AMR) germs that he encountered during his clinical practice fueled his interest in the collaboration with scientists developing chicken imunologically active protein (CIAP) products.

Notes:

Violeta Ionescu et al., J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C6-053

Staphylococcus Aureus infections in psoriasis plaques

Violeta Ionescu[a], Andreea DINU[b], Cristina CĂȘARU[b], Lucica SIMA[b], Iuliana MIHAI[b], CHIURCIU C.[b] and **PĂTRAȘCU I.V.[a]**
[a]Activeimmunity srl., Romania
[b]Romvac Company S.A., Romania

Introduction: Psoriasis is an inflamatory condition of the skin, of which chronic plaque psoriasis is the most common form (1). Psoriasis is associated with alteration in the composition of skin bacterial biota (2). *Staphylococcus aureus* (3), group A *Streptococcus* and *Streptococcus pyogenes* are involved in psoriasis pathogenesis in genetically predisposed individuals (2,4-6). *S. aureus* colonization of lesional skin was associated with a significantly higher PASI (Psoriasis Area Severity Index) score, even more evident when isolated strains were toxigenic (5,7).

Methodology: This study aimed to investigate the prevalence of infections with pathogenic bacteria in psoriasis plaques. For this purpose, randomly selected patients with plaque psoriasis were tested for bacterial infections in skin lesions using conventional microbiological methods.

Results: *S. aureus* was cultivated in 75 of the 205 samples (36.6%), while methicillin-resistant *S. aureus* (MRSA) was identified in 45 of 205 samples (21.9%). Other Gram–positive and Gram–negative cocci and bacilli were cultivated from psoriasis plaques: Staphylococcus spp. (representing coagulase negative staphylococci – S.Co.N.) in 122 samples (59.5%), Bacillus/Paenibacillus spp. in 58 samples (28.3%), Streptococcus spp. in 25 samples (12.2%), Enterobacteriaceae in 19 samples (9.3%) (of which Klebsiella spp. was present in 4 samples, Enterococcus spp. in 3 samples, and Escherichia coli in 2 samples, representing 2%, 1.5% and 1%, respectively), Enterococcus spp. in 14 samples (6.8%), non-fermenting bacteria in 14 samples (6.8%) (including Pseudomonas aeruginosa which was cultivated in 2 samples, 1% respectively), and Corynebacterium spp. in 7 samples (3.4%).

Conclusion: Gram-positive bacteria were the most frequently found bacteria in psoriasis plaques. Of them, S. aureus was the most prevalent, represented especially by MRSA strains. This study is intended as a warning about the necessity of evaluating bacterial infections in psoriasis plaques, in order to clarify the connection between skin infection and onset or worsening of psoriasis pathology.

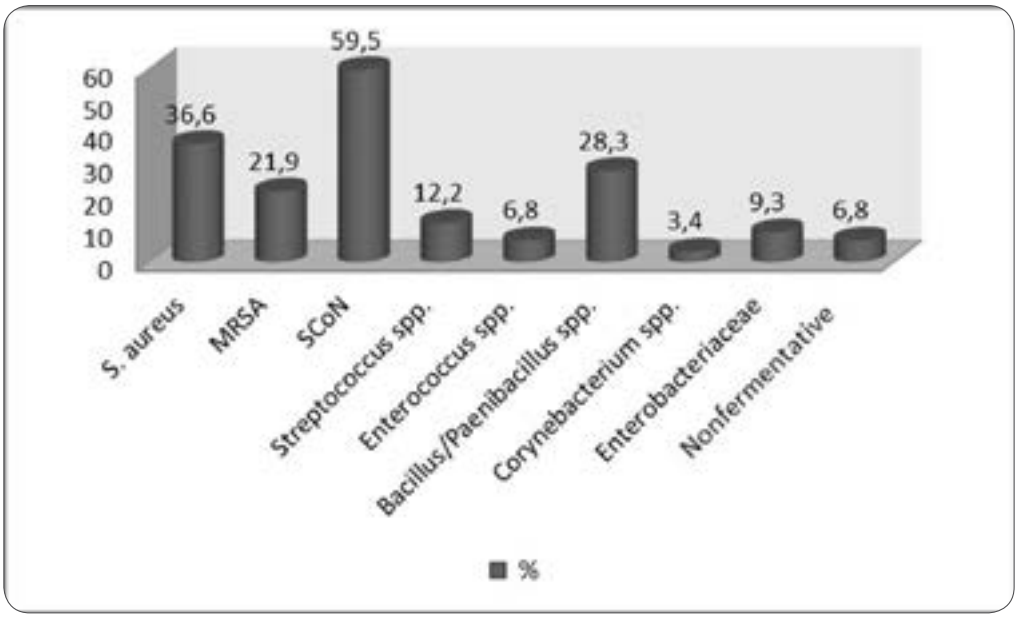


Figure 1: Bacterial species and bacterial groups found in psoriasis plaques

Recent Publications:

1. NALDI L., GAMBINI D., The clinical spectrum of psoriasis. Clinics in Dermatology, 2007, 25, 510–518..
2. GAO Z., TSENG C.H., STROBER B.E., PEI Z., BLASER M.J., Substantial alterations of the cutaneous bacterial biota in psoriatic lesions. PLoS One., 2008, 3(7), e2719.
3. SKOV L., BAADSGAARD O., Bacterial superantigens and inflammatory skin diseases. Clin.Exp.Dermatol., 2000, 25, 57–61.
4. WEISENSEEL P., PRINZ J.C., Incidental detection of S. pyogenes-DNA in psoriatic skin by PCR., Arch.Dermatol. Res., 2005, 296, 573–576.
5. OKUBO Y., OKI N., TAKEDA H., AMAYA M., ITO S., OSADA M., UTSUMI M., KOGA M., KAWASHIMA H., Increased microorganisms DNA levels in peripheral blood monocytes from psoriatic patients using PCR with universal ribosomal RNA primers. J.Dermatol., 2002, 29, 547–555.
6. TOMI N.S., KRANKE B., ABERER E., Staphylococcal toxins in patients with psoriasis, atopic dermatitis, and erythroderma, and in healthy control subjects. J.Am.Acad.Dermatol., 2005, 53, 67–72.
7. BALCI D.D., DURAN N., OZER B., GUNESACAR R., ONLEN Y., YENIN J.Z., High prevalence of Staphylococcus aureus cultivation and superantigen production in patients with psoriasis. Eur J Dermatol., 2009, 19(3), 238-242.

Biography

Violeta Ionescu obtained DVM and PhD degrees in Veterinary Medicine from the University of Agronomic Sciences and Veterinary Medicine in Bucharest, Romania. Her focus and publications during doctoral studies targeted veterinary parasitology.Due to her interest in the One Health concept, she joined the group of Romanian scientists at Activeimmunity, Bucharest led by company president, Dr. Ionel Victor Patrascu, a well-known specialist in virology and vaccinology, that develop alternative immunological approaches for infections with antimicrobial resistance (AMR) microorganisms in humans. Her work also targets novel immunomodulatory approaches in psoriasis.

violeta.enachescu@gmail.com

Notes: