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### **Areas of scientific interests**

#### **1. HLA genotyping for the National Registry of Hematopoietic Stem Cell Donors Volunteers (RNDVCSH) and National programme for transplantation of organs, tissues and cells of human origin**

HLA (Human Leukocyte Antigens) represents tissue antigens that confers identity of an individual. The genes governing the synthesis of these antigens are located on chromosome 6 known as the major histocompatibility complex (C.M.H.) and HLA (Human Leucocyte Antigens). A successful transplant is based on setting a maximum similarity (match) between the HLA antigens of the donor and the recipient.

HLA typing is done using molecular biology techniques: extraction of nucleic acids from blood samples of donors / receptor (automatic extractor nucleic acids), PCR - SSP (sequence specific primers - genotyping high resolution) - interpretation of results obtained in the examination gel interpretation program is Unimach program, flow cytometry techniques. These techniques identified 4447 HLA class I and II and the nucleotide sequences of all alleles are present in the computerized database - GenBank, EMBL, IMGT / HLA.

HLA antigens are markers for the differential diagnosis of certain diseases that show a genetic predisposition which is the reason of our study.

#### **2. Human hydatidosis: sero-epidemiological, genetic, medical, social, and economic issues**

As a public health problem, due to morbidity index, hydatid cyst remains at a high level. High morbidity and sequelae creates a significant interest in this disease and continue to maintain the attention of clinicians and surgeons worldwide.

In research, we analyze samples using techniques of molecular biology: DNA extraction, PCR amplification SSP (sequence specific primers) high-resolution genotyping, sequencing. Nucleotide sequences are obtained in the form of electrophoregram/ chromatograms (peaks bases), and these are saved in Applied Biosystems format <.ab1>. The branching dendrogram is generated by software MEGA 5 by Neighbor-Joining method.

### **Scientific publications**

1. Dumitrascu V, **Calma CL**, Vlad DC, Marincu I, Neghina AM, Neghina R. Giant primary splenic hydatid cyst in a rural patient from southwestern Romania: a rare presentation of the hydatid disease. Vector Borne Zoonotic Dis. 2013 May; 13(5):342-4. doi: 10.1089/vbz.2012.1171. PMID: 23402335 [PubMed - indexed for MEDLINE]

2. Vlad DC, Neghina AM, Dumitrascu V, Marincu I, Neghina R, **Calma CL**. Cystic echinococcosis in children and adults: a seven-year comparative study in western Romania. *Foodborne Pathog Dis*. 2013 Feb;10(2):189-95. doi: 10.1089/fpd.2012.1281. PMID: 23336269 [PubMed - indexed for MEDLINE]
3. **Calma CL**, Neghina AM, Moldovan R, Dumitrascu V, Marincu I, Neghina R. Cystic echinococcosis in Arad county, Romania. *Vector Borne Zoonotic Dis*. 2012 Apr;12(4):333-5. Epub 2012 Jan 4. PMID: 22217165 [PubMed - indexed for MEDLINE]
4. **Calma CL**, Neghina AM, Vlaicu B, Neghina R. Giant pulmonary and hepatic hydatid cystis in a child. *Trop Doct*. 2012 Jan;42(1):54-5. Epub 2011 Nov 6. PMID: 22056925 [PubMed - indexed for MEDLINE]
5. Borza C, Neghina AM, Dumitrascu V, Tirnea L, **Calma CL**, Neghina R. Epizootology of trichinellosis in pigs and wild boars in Western Romania, 1998-2011. *Vector Borne Zoonotic Dis*. 2012 Aug;12(8):712-3. Epub 2012 May 31. PMID: 22651387 [PubMed - in process]
6. Roxana Moldovan, Adriana Maria Neghina, **Crenguta Livia Calma**, Iosif Marincu, Raul Neghina. Human cystic echinococcosis in two south-western and central-western Romanian counties: A 7-year epidemiological and clinical overview. *Acta Trop*. 2012 Jan;121(1):26-9. Epub 2011 Oct 12. PMID: 22019934 [PubMed - indexed for MEDLINE]
7. **Crenguta Livia Calma**, Adriana Maria Neghina, Brigitha Vlaicu, Raul Neghina. Cystic echinococcosis in the human population of a western Romanian County, 2004-2010. *Clin Microbiol Infect*. 2011 Nov;17(11):1731-4. doi: 10.1111/j.1469-0691.2011.03633.x. Epub 2011 Sep 15. PMID: 21919995 [PubMed - indexed for MEDLINE]
8. Neghina R, Neghina AM, **Calma CL**, Marincu I, Iacobiciu I. Knowledge and Interests of Romanian Medical Students in Parasitology Tropical and Travel Medicine. *Acta Trop*. 2011 Oct-Nov;120(1-2):136-9. Epub 2011 Jul 14. PMID: 21781951 [PubMed - indexed for MEDLINE]
9. **Crenguta L. Calma**, Adriana M. Neghina, Brigitha Vlaicu, Ioan Iacobiciu, Raul Neghina. A Pediatric Case of Hepatorenal Hydatidosis in a Patient with Human Immunodeficiency Virus (HIV). *Infectious Diseases in Clinical Practice*, July 2012 - Volume 20 - Issue 4 - p 285–286 , 2011
10. **Calma C.L.**, Vlaicu B., Iacobiciu I. General aspects about human hydatidosis/echinococcosis – bibliographic study. *Journal of Hygiene and Public Health (Revista de Igienă și Sănătate Publică)*, vol.61, nr.3, 42-47, 2011.
11. **Calma C.L.**, Vlaicu B., Iacobiciu I. Hepato-Pulmonary cystic echinococcosis in a patient with normal immunological status. Case presentation. *Journal of Hygiene and Public Health (Revista de Igienă și Sănătate Publică)*, vol.61, nr.3, 37-41, 2011.
12. Raul Neghina, Roxana Moldovan, Iosif Marincu, **Crenguta L. Calma**, Adriana M. Neghina. The roots of evil: the amazing history of trichinellosis and *Trichinella* parasites. *Parasitol Res*. 2012 Feb;110(2):503-8. Epub 2011 Oct 8. Review. PMID: 21984371 [PubMed - indexed for MEDLINE]
13. Marincu I, Neghina AM, **Calma CL**, Neghina R. New foci of trichinellosis in Western Romania, 2011. *Acta Trop*. 2012 Jan;121(1):47-9. Epub 2011 Sep 24. PMID: 21964408 [PubMed - indexed for MEDLINE]

### **Affiliations**

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