

Latent cryptic form of persistent chlamydial infection: a cause of a wide spectrum of human diseases and health problems.

Emil Bazala, Patients' Organisation "Chlamydie o.s."

Drahomíra Polcarová, Patients' Organisation "Chlamydie o.s."

Jaroslav Renda, in Memoriam, Regional Veterinary Administration for Region Olomouc

Summary

Concerned about their own health problems, the authors of this study noticed as early as in 1977 that a vast number of people involved in animal breeding and some of their family members, who were outside of this profession, suffered from strikingly similar diseases and health problems. This observation brought them to the hypothesis that the cause of these problems could be an agent, presumably infectious, of a single origin.

Twelve years of intensive medical research, analyses, and consultations with experts in both human and veterinary medicine led to a conclusion that the cause of these health problems and diseases could be most probably identified in latent chlamydial infection. The results of the research were published in journals of veterinary medicine (1992) (1, 29) and following further research also in a journal of human medicine (Medical Hypotheses, 2005) (26). The research was finally concluded in March 2015. On the basis of the amassed results which included anamnestic and diagnostic data obtained from more than thousand observed patients, including whole families, with regard to the documented growth of several serious diseases and a wide range of health problems in the observed family of an infected animal breeder, the researchers arrived at a positive conclusion claiming that bacteria of the *Chlamydiae* genus persisting in the infected organism in their cryptic (stressed) form are a cause of a wide spectrum of diseases and health problems in human population.

Introduction

At present, results of a still growing volume of scientific research worldwide warn against a possible causal relationship between *Chlamydiae* and a number of diseases (Alzheimer's disease, Parkinson's disease, asthma, sclerosis multiplex, schizophrenia, cancer, arteriosclerotic changes in blood vessels, and many more). Although these studies and articles send a clear warning message, so far no scientific research has proved such a causal relationship. Similarly, no studies sufficiently focus on a causal relationship between chlamydial infection and development of a wide range of human diseases and health problems. The authors of this study account this to the fact that experts in both human as well as veterinary medicine focus predominantly on acute stages of chlamydial infections while ignoring the latent cryptic form of persistent chlamydial infection. **(Dr. Stratton (USA), an expert in this field, spoke about a 'stressed' form of chlamydial infection.)**

Methodology and Data

In the first stage of the research (1980 – 1990), the authors amassed anamnestic data from more than 1000 people involved in animal breeding. By 1990, the authors processed data from 746 of the breeders (representing 31 different farms from 22 agricultural companies), and also anamnestic data from 146 randomly selected people of both sexes and various ages who were not involved in agriculture. The breeders and some of their family relatives were serologically tested for a wide range of infectious diseases (mycoplasmosis, tularaemia, leptospirosis, brucellosis, toxoplasmosis, listeriosis, boreliosis, and others). In the majority of the tested people, the analyses of these tests showed comparable serological response only in cases of chlamydial infection, namely a serological chlamydial response to a general chlamydial antigen and a *Chlamydia trachomatis* antigen. Consequently, a randomly selected group of 131 breeders and their family members were

serologically tested for various chlamydial antigens. Over the following eight years, some of these people were serologically tested from one to four times a year.

In its second stage, approximately 1990 – 2004, the research was focused on similar health problems diagnosed in people from urban, non-animal breeding communities. The research included anamnestic as well as clinical data recording a wide range of diseases and health problems in the family of the infected breeder. The data were collected over the course of forty-nine years following chlamydial primary infection of the breeder's eye acquired as a result of his work with *Chlamydiae*-infected cattle in 1965. A biological experiment on two *Chlamydiae* seronegative guinea pigs was conducted in the infected breeder's family. The guinea pigs used in the experiment came from a medical faculty's laboratory. The two guinea pigs were kept separate; one of them was fed on granulated feed and family (especially children) food leftovers, the other on granulated feed only. According to the breeder's family anamnesis, prior to acquiring the infection, the family enjoyed solid health and longevity (up to ninety years of age and more). The animals used in biological experiments were: ferret (repeatedly), dwarf rabbit and guinea pig).

The long-term research comprised consultations of anamneses as well as clinical observations of over 1000 people suffering from latent cryptic form of persistent chlamydial infection. Some of these people were repeatedly serologically tested for chlamydial antibodies by various serological laboratories using different methods and different batches of diagnostic antigens. The tests were carried out in accredited laboratories of both human and veterinary medicine in various institutions in the Czech Republic.

Research Results

Tables 1, 2, and 3 show results of anamnestic tests. Comparison of equally composed (in terms of age, sex and profession) groups of people employed in the agriculture industry and people not involved in agriculture clearly showed more frequent occurrence of diseases and health problems in the former group. The test results show striking similarity in the occurrence of the respective health problems in all work places (farms) of the observed farmers. However, the anamnestic data from people working outside agriculture give varying results, namely in considerably lower levels of infection (compared to the farming communities) and in number of health problems per person. Out of this observed group of non-farmers, those with higher occurrence of health problems were predominantly people from villages. This gives rise to a theory of succession infection, in which animals infect breeders, who in turn infect fellow villagers. Interestingly, similar results of anamnestic and serological tests were obtained in a 1994 – 1995 research study conducted at the Clinic of Infectious Diseases at Faculty Hospital Brno and the Research Institute of Veterinary Medicine Brno. The research study included 56 patients (22 men and 34 women, aged 24 – 55) with long-term employment in farming suffering from health problems consistent with chronic fatigue syndrome. A control group included 48 patients (18 men and 34 women, aged 27 – 43) at the Clinic of Infectious Diseases working in various non-agricultural professions. The patients in the control group suffered from similar health problems as patients in the former group and their serological tests were positive only for chlamydial infection among those commonly screened (23).

Table 1: Anamnestic data about specific health problems of farmers and occurrence of the same health problems in a control group of non-farmers

Health problem	Occurrence among farmers (%) n=746	Occurrence among non-farmers (%) n=146
Pain in joints and spine	74.9	33.6
Coughing	74.1	12.3
Fatigue, somnolence, torpidity	61.1	34.1
Headache	53.1	25.3
Itching of skin and eyes	44.8	10.9
Occasional influenza and tonsillitis	43.4	21.2
Tingling and numbness of extremities	41.9	15.1
Rheumatism	41.7	15.7
Respiratory problems	33.0	10.3
Eczemas, allergy	26.9	11.6
Tonsillitis and/or influenza-like states	26.8	4.8
Stiffness and swelling of joints	23.3	4.8
Night perspiration	22.9	7.5
Conjunctivitis	16.3	10.3
Neuritis, phlebitis	15.4	3.4
Dizziness, drunkenness-like states	13.9	5.5
Kidney and urinary tract infections	13.4	9.6
Arrhythmia	13.1	5.5
Frequent increased body temperatures	11.4	7.5
Abortion, risk pregnancy	11.2	4.8
Nausea	10.7	3.4
Frequent compulsive defecation	3.7	0
Asthma	2.4	0
Diabetes	2.3	1.4
Gout	0.8	0
Handicapped children	0.7	0
Similar disorders in the family	24.5	8.2

Table 2: Frequency of specific health problems in patients under study

Group of patients	Number of patients	Occurrence of problems in one person (%)				
		No problems	1 - 5	6 - 10	11 - 17	Average
Animal breeders	746	0	36.5	45.9	17.6	7.1
Others	146	12.3	71.2	13.0	3.5	3.0

Table 3: Anamnestic data in the family of the infected breeder collected thirty-one years after the first guinea pigs tests and forty-nine years after the chlamydial primo-infection of his eye.

Disease	Genetically related family members n=38		Non-genetically related family members n=93	
	number	%	number	%
Alzheimer's disease	1	2.6	5	5.4
Sudden failure of respiratory and circulatory systems	2	5.3	14	15
Diabetes	0	0	13	14
Cancer	0	0	12	12.9
Rapid tremor (hands, head)	3	7.9	1	1,1
Tinnitus	4	10.5	2	2.2
Suicides	1	2.6	2	2.2
Chronic fatigue syndrome	3	7.9	2	2.7
Leukemia	0	0	1	1.1
Encephalitis	2	5.2	0	0
Restless legs syndrome	1	2.6	0	0
Dementia in children - families	0	0	2	2,2
Range of subjective problems	33	86.8	71	76.3
Subjective problems in children	8	100	No data available	
Apoplexy, heart attack	0	0	8	8,6
Enlarged thyroid	3	7.9	1	1.1

Table 3 clearly demonstrates intensive growth in a wide range of subjective health problems in the family of the infected farmer, as described in this study. Prior to the chlamydial primo-infection of the breeder's eye in 1965, the family enjoyed excellent health (outstanding immunological background). In the genetically non-related members of the family (in-laws and partners of the breeder's children), whose anamnesis did not record such a frequency of disease, the researcher discovered alarmingly high growth in not only subjective health problems, but also in occurrence of serious and fatal diseases. The case study of the breeder's family anamnesis is a warning example showing how, in the course of fifty years, the state of health of an individual as well as the whole group or community can deteriorate (striking growth in diseases and health problems never before diagnosed in the family anamnesis) as a direct consequence of long-term latent cryptic form of persistent chlamydial infection. In cases of depression-caused suicides in the family, experts failed in detecting or diagnosing the cause of the depressions.

Table 4: Results of serological tests on people and animals

Category	Number of farms	Number of individuals	Antigen	Method	Level of antibodies 1:								Infestation (%)		
					2	4	8	16	32	64	128	512		1024	2048
Humans	17	131	General chlamydial antigen	KFR	15	39	28	28	8	7					95.4
Humans	9	26	<i>Chlamydia trachomatis</i>	ELISA		1	4	1		1	2	4	3	10	100.
Animals	9	136	General chlamydial antigen	KFR	2	6	11	16	10						33.1

Table 4 shows that the KFR method detected a very low serological response to a general chlamydial antigen. Long-term, repeated and compared serological tests on the same patients showed that higher serological chlamydial responses (1:16 and higher) were detected only in those patients who suffered from more frequent and acute chlamydial infection. A group of 26 patients tested by means of the Chlamyset-Antibody ETA (Orion Diagnostic), using the ELISA method, showed a considerably higher chlamydial response (1:4-2048), while the KFR method testing serological response to a general chlamydial antigen on the same group of patients showed chlamydial response of only 1:2-16. On the basis of these results, the KFR method must be considered as imprecise and suitable mainly for general, large-scale diagnostics. In the post-2000 period, our research used more accurate methods in diagnosing specific immunoglobulin fractions (IgA, IgG, IgM), as well as a quantity of serological test results carried out by various laboratories throughout the Czech Republic. All these findings clearly point to the fact that in people suffering from latent cryptic form of persistent chlamydial infection the levels of specific chlamydial antibodies detected by standard test methods are very low. These low levels are usually considered as negative (or slightly positive). Both physicians and diagnostic laboratories interpret these low levels as signs of a previously undergone and cured chlamydial infection. However, further tests using the cHSP 60 method in patients with such low levels of chlamydial antibodies in most cases change the diagnosis to seropositive.

The results of the biological experiment on two guinea pigs in the animal breeder's family showed seropositive response to a general chlamydial antigen (1:2-4+++ in the animal fed on granulated feed and the family's food leftovers. The other animal, which in the course of the experiment was kept separate and fed exclusively on granulated feed, was seronegative. The infected guinea pig later showed signs of neurological problems (incoordination), lost weight, and eventually died. Its internal organs were congested and small haemorrhages were found on its pleura. All animals used in biological tests conducted in the breeder's children's families were recorded as having suffered from

weight loss, loss of appetite and staggers within two years following the start of the experiment. Veterinary doctors could not diagnose the cause of these health problems, nor apply effective treatment. Internal organs of these animals showed health deteriorations similar to those found in the guinea pig used in the first biological experiment. Repeated serological tests on the members of the family (in which the guinea pigs experiment was carried out) showed long-term seropositivity (1:16-2048).

Discussion

The literature states that chlamydial infections namely in connection with acute stages of organic systems (pneumonia, urogenital infections, enteritis, conjunctivitis and keratitis). Recently, a growing number of experts have been warning about the possible connection between chlamydial infection and development of serious diseases (cancer, Alzheimer's disease, Parkinson's disease, schizophrenia, arteriosclerotic changes in blood vessels, and many more). So far, no research data sufficiently show causal relationship between the latent cryptic form of persistent chlamydial infection and development of a wide range of human diseases and health problems. Physicians often ignore this hypothesis and consider chlamydial infection as a simple infection, which is perfectly curable by means of antibiotic treatment. Such professional attitude is still taught at medical faculties worldwide.

On the basis of our almost forty-year-long research we propose that *Chlamydiae* permanently survive and persist as intracellular parasites in the cells of a number of organic systems of the host organism and in their cryptic form thus induce a wide spectrum of diseases and health problems in human population. *Chlamydiae*-induced diseases and health problems can be found in all branches of human medicine. Sadly, experts are not fully aware of the above-mentioned causal relationship. It is highly probable that after a serious and thorough research, modern medicine will finally acknowledge the role of chlamydial infection in the development of a number of chronic diseases.

Conclusion

After more than forty years of researching into the causes of the development of various diseases and health problems in the above mentioned breeder and his family members, and consultations with over 1000 affected people of various professions suffering from identical health problems (sometimes even whole families), the authors of this article have come to the conclusion that the cause of these problems is a latent, chronic persistent *Chlamydiae* infection. This finding is based on both scientific research results as well as logical conclusions springing from the life cycle and effects of this dangerous bacterial infection.

The functioning of a human organism is governed by specific physiological rules, which are fixed and under normal conditions invariable. In order to contract a disease, the organism must be given a critical impulse bringing about disruption of these physiological rules. *Chlamydiae* can serve as such an impulse. Other possible influences can also be significant, but in many cases they just hasten and potentiate the onset of *Chlamydiae*-caused diseases. On the bases of our research and its logical implications we conclude the following:

1. The family of the breeder suffering from chlamydial infection (primo-infection of the eye in 1965) recorded, over fifty years following the primo-infection, a family anamnesis containing a wide range of serious diseases (Alzheimer's disease, circulatory and respiratory systems failures, diabetes, cancer, tinnitus, chronic fatigue syndrome, tremor, a number of subjective health problems and other diseases). None of these health problems and diseases had been recorded in the family anamnesis prior to the primo-infection. Table 3 clearly demonstrates (without a need of expert medical insight) that the range and occurrence of these diseases in the breeder's family significantly exceeds figures representing general population. This finding unambiguously identifies the role and influence of latent chlamydial infection on the occurrence and development of these health problems in the breeder's family. This case study, together with similar cases throughout the entire population form the cornerstone of our research findings.
2. Over 90% of people suffering from diseases and health problems described in this study are positive for IgA, IgG and HSP 60 antibodies. The connection between latent chlamydial infection and levels of these antibodies is well documented also in a number of international studies. The figure applies also to people involved in animal breeding.
3. Bacteria of the *Chlamydiae* genus are microorganisms capable of persisting chronically in the cells of the infected organism in the course of the organism's entire life (sometimes since birth).
4. *Chlamydiae* are able to replicate even in the immune system's cells (macrophages), invade the circulatory system, disseminate throughout the organism and persist in a cryptic (Dr. Stratton uses the term 'stressed') form as an intracellular parasite. Chlamydiae in their cryptic form can resist the immune system of a healthy man and become a 'ticking bomb' in his organism. Under the right circumstances, chlamydiae can cause any illness in the cryptic form, according to Prof. Pospisil.
5. In their latent stage, *Chlamydiae* generate neurotoxins in the host organism (heat shock protein HSP 60, tumor necrosis factor alpha TNF-alpha, and lipopolysaccharide LPS). Long-term influence of neurotoxins in the infected organism (especially highly toxic HSP 60), combined with allergenization result in a number of mental and psychiatric disorders and diseases (especially autoimmune ones), such as Alzheimer's disease, Parkinson's disease, Meniere's disease, Crohn's disease, epilepsy, sclerosis multiplex, psoriasis, schizophrenia, neuropathy, fibromyalgia, muscle weakness, and tinnitus. It can also cause degenerative brain disorders, hematopoietic disorders, leukemia, cancer (namely in parenchymatous and organs and organs with a mucous membrane), diabetes, asthma, and rheumatic disorders (we presume that it can be responsible also for amyotrophic lateral sclerosis ALS). Patients suffering from a long-term exposure to this infection often become very weather-sensitive. Our research even records (young-age) patients suffering a sudden complete collapse of respiratory and circulatory systems as results of rapid weather changes. People with good immunogenetic background record lower occurrence of serious diseases, but in the long run, chlamydial infection in their organism causes a wide range of subjective (often undiagnosable), painful and severe health problems. CT scans and MRI often find in these people small nodules, typically on the brain, the thyroid and some parenchymatous organs. Long-term influence of neurotoxins results in conditions similar to inflammation of nerves. This causes a wide range of, namely subjective, persistent health problems. The intensity of these problems tends to be rather variable depending on weather changes (degree of biological load). Anamneses of such immunogenetically-disposed individuals are strikingly similar. The onset of these health problems is usually very slow and first serious symptoms can show years later. The number of people suffering from such health problems is enormous across the entire human population.
6. Long-term influence of pathogen factors of the cryptic form of *Chlamydiae* infection (production of neurotoxins, chlamydial penetration into macrophages and the circulatory system, direct influence of *Chlamydiae* on the infected cells, autoimmune and inflammatory effect, development of allergies, homeostasis disorders, etc.) and namely their cumulative influence result in disorders in a number of physiological processes in the infected organism. This supposedly has a causal relationship with cell metabolism disorders and development of a wide range of, often very serious, health problems in many areas of human medicine. The authors of this study firmly believe that serious scientific objectification of this dangerous form of chlamydial infections could mean a breakthrough in our knowledge of this cause of a number of diseases and health problems in human medicine.

7. The occurrence of genetically determined diseases in infected families with no previous record of such diseases suggests a possible influence of pathogen chlamydial factors on the development of cell division mutations and chromosomal aberrations in the course of intrauterine development of an individual. In some families, the first health problems and subjective problems were recorded already in children.
8. Current human medicine is ignorant of these facts and does not have reliable diagnostic means capable of detecting latent chlamydial infection. This is due to long-term low levels and dynamics of chlamydial antibodies in the blood serum (and other body fluids) in the latent stage of the infection. Diagnostics of HSP 60 is used only rarely and its seropositivity is often ignored. Detection of low levels of chlamydial antibodies is generally interpreted as an indicator of previous and successfully treated infection. Unfortunately, this is a wrong interpretation.
9. The findings of our research show that latent chronic persistent chlamydial infection can be reliably diagnosed by detection of levels of IgA antibodies at 1:10 (0.1), IgG antibodies at 1:20 (0.2) and concurrent detection of HSP 60 antibodies. These conclusions are supported by a number of international studies which similarly claim that even persistent low levels of IgA, IgG and HSP 60 antibodies are reliable indicators of chronic persistent *Chlamydiae* infection. These findings challenge the currently accepted diagnostics that finds positivity only at the 1.1 (and higher) level of antibodies.
10. Serological tests for chlamydial antibodies in the same serum, carried out in various laboratories sometimes bring varying results. Sporadically, even within one laboratory testing, two samples of the same serum show varying levels of antibodies. This can be attributed to the quality of the diagnostic antigen used, test methodology, or even laboratory procedures. Therefore, in such cases, it is necessary to carry out serological tests of the problematic serum in two laboratories or repeat the testing procedures.
11. Short-term antibiotic treatment of latent chronic persistent chlamydial infection is usually ineffective. Possible successful treatment of chlamydial infection is almost always short-lived and patients often experience later recurrence and even intensification of health problems. However, patients that have undergone a long-term combined antibiotic treatment (Dr. Stratton's or Dr. Wheldon's methods) state significant improvement of their health. Unfortunately, the side effects of this treatment can be very unpleasant and in result, some patients decide to abandon the treatment, which can lead to later recurrence of their health problems. What needs to be further researched into is the length of the combined antibiotic treatment (months or years?), as well as problems of possible reinfection, mostly from other family members.
12. The relationship between the cryptic form of chlamydial infection and a wide range of various diseases and health problems can be reliably determined by carrying out biological experiments on healthy (seronegative) laboratory animals (guinea pig, dwarf rabbit, ferret). Keeping these animals in families diagnosed with chlamydial infection and feeding them food left-overs from the family diet, and exposing them to frequent physical contact with the members of the family can result in infection transmitting, which can be then diagnosed. The infection transmitting, in a long-run, can be symptomized by weariness, loss of appetite, loss of weight, incoordination, and even by paralysis of the hind-legs. Following serological or direct (DNA or microscopic) diagnosis then confirms chlamydial infection in these animals. Although this method is time-demanding and requires strict zoological, veterinary and hygienic conditions for the experiment, and even coordination of diagnostic institutions of both veterinary as well as human medicine, it is efficient for scientific verification of our conclusions.

This paper is only a short summary of the study. Full version and research results (in Czech and English) are available upon request from the author of the study and on www.chlamydiezs.cz.

This article was not written as a strictly scientific work, but as a summary of our findings of facts and insights of these serious medical problems.

Bibliography

1. Von Bazala, E., Renda, J.:
Latente Chlamydien infektionen als Ursache von Gesundheitsstörungen bei Schweine-, Rinder- und Schafzüchtern in der CSFR
Berl. Münch. Tierärztl. Wschr. **105**, 145 – 149 (1992) 105. Heft 5. 1. Mai 1992
2. Balin, B.J., Gérard, H.C., Arking, E.J., Appelt, D.M., Branigan, P.J., Abrams, J.T., Whittum-Hudson, J.A., Hudson, A.P.:
Identification and localization of Chlamydia pneumoniae in the Alzheimer's brain.
Med. Microbiol. Immunol. **187**, 23-42, 1998.
3. Beatty, W.L., Morris, R.P., Byrne, G.I.:
Persistent chlamydiae: from cell culture to a paradigm for chlamydial pathogenesis.
Microbiol. Rev. **58**, 686-699, 1994.
4. Ben-Yaakov, M., Eshel, G., Zaksonski, L., Lazarovich, Z., Boldur, I. :
Prevalence of antibodies to Chlamydia pneumoniae in an Israeli population without clinical evidence of respiratory infection.
J. Clin. Pathol., **55**, 355-358, 2002
5. Boman, J., Roblin, P.M., Sundstrom, P., Sandstrom, M., Hammerschlag, M.R. :
Failure to detect Chlamydia pneumoniae in the central nervous systems of patient with MS.
Neurology **54**, 265-266, 2000.
6. Elkin, M.S., Lin, I.F., Grayston, J.T., Sacco, R.L.:
Chlamydia pneumoniae and the risk of first ischemic stroke: The Northern Manhattan stroke study.
Stroke **31** (7), 1521-1525, 2000
7. Gérard, H.C., Branigan, P.J., Balsara, G.R., Health, C., Minassian, S.S., Hudson, A.P.:
Variability of Chlamydia trachomatis in fallopian tubes of patients with ectopic pregnancy.
Fer. Steril. **70**, 945-948, 1998.
8. Golden, M.R., Schillinger, J.A., Markowitz, L., Louis, M.E.:
Duration of untreated genital infections with Chlamydia trachomatis. A review of the literature.
Sex. Transm. Dis. **7**, 329-337, 2000.
9. Hahn, D.L.:
Incident wheezing and prevalent asthma have different serologic patterns of „acute“ Chlamydia pneumoniae antibodies in adults. In: A. Stary (Ed.), Proceedings of the 3th Meeting of the European Society for Chlamydia Research, Vienna, Austria, September 11-14, p.226, 1996
10. Hrubá, D.,
Epidemiologie chlamydiových infekcí a zajištění diagnostiky v ČR
Sborník přednášek Mezinárodní konference k chlamydiovým infekcím v Brně 13-15.11.2003 s.8-10, 2003
11. Jarčuška, P., Vološinová, D., Novotný, R.,
Antibiotika vhodné k léčbě chlamydiových infekcí
Sborník přednášek Mezinárodní konference k chlamydiovým infekcím v Brně 13-15.11.2003 s.21-22, 2003
12. Kol, A., Sukhova, G. A., Lichtman, A.H., and Libby, P. :
Chlamydial heat shock protein 60 localizes in human atheroma and regulates macrophage tumor necrosis factor-alpha and matrix metalloproteinase expression.
Circulation **98**, 300-307, 1998
13. Medkova, Z.:
Species-specific antichlamydial antibodies in people having both arthritic disorders and positive antibodies against Chlamydia-specific lipopolysaccharide.
Proc. 4th Meeting Eur. Soc. Chlamydia Res., Helsinki, August 20-23, 2000, Abstract Suppl. 2000.
14. Parks, K.S., Dixon, P.B., Richey, C.M., Hook, E.W.:
Spontaneous clearance of Chlamydia trachomatis infection in untreated patients.
Sex. Transm. Dis. **24**, 229-235, 1997
15. Pospíšil, L., Věžník, Z., Diblíková, I.:
Prevalence chlamydiové infekce u osob z exponovaného prostředí.
Remedia klinická mikrobiol., **2**, s. 83-68, 1998

16. Rahm, V.A., Belsheim, J., Gleerup, A., Gnarpe, H., Rosen, G.:
Asymptomatic carriage of Chlamydia trachomatis: a study of 109 girls. Eur. J. STD, AIDS, **3**, 91-94,1986
17. Ring, R.H., Lyons, J.M.:
Failure to detect Chlamydia pneumoniae in the late-onset Alzheimer's brain.
J. Clin. Microbiol.,**38**, 2591-2594, 2000.
18. Srirani, S., Stratton, C.W., Yao, S. et al.:
Chlamydia pneumoniae infection in the central nervous systems in multiple sclerosis
Ann. Neurol. **46**,6-14, 1999
19. Stenberg, K., Mardh, P.A.:
Persistent neonatal chlamydial infection in a six year old girl.
Lancet **II**, 1278-1279, 1986.
20. Zeman, K., Pospíšil, L., Medková, Z., Čanderle, J.:
Relationships of chlamydial infection to the characteristics of lipaemia in the unstable angina pectoris (UAP)
Vnitřní lékařství, **49**, č.6, s. 555-558, 2003
21. Zeman, K., Pospíšil, L., Medková, Z., Diblíková, I., Votava, M.:
Chlamydia Pneumoniae and Myocardial Infarction? (Serological Examination)
Vnitřní lékařství, **47**, č. 12, s. 852-855, 2001
22. Pospíšil, L.:
Chlamydie a ateroskleróza , Praktický lékař 83, č.2, 59-61, 2003
23. Věžník, Z., Pospíšil, L.,:
Chlamydiové infekce, Institut pro další vzdělávání pracovníků ve zdravotnictví v Brně, 1997
24. Barron, A.L.:
Microbiology of Chlamydia, CRC Press, Inc. Boca Raton, Florida, 1988:250
25. Mi-Hee Park, Young-Joon Kwon, Hee-Yeung Jeong, Hwa-Young Lee, Young Hwangbo, Hee-Jung Yoon, Se-Hoon Shim,:
Association between Intracellular Infections Agents and Schizophrenia
Clinical Psychopharmacology and Neuroscience 2012,10(2):117-123
26. Bazala, E., Renda, J.,:
Latent chlamydial infections: The probable cause of a wide spektrum of human diseases, Medical Hypotheses(2005) 65,578-584
27. Lozinquez, O., Arnaud, E., Belec, L., Nicaud, V., Alhen-Gelas, M., Fiessner, J.-N., Aiach, M. and Emmrich, J.,:
Demonstration of an association between Chlamydia pneumoniae and venous tromboembolic disease.
Thromb. Haemost. 83, 887-891, 2000
28. Fellerhoff, B., Wank, R.,:
Increased prevalence of Chlamydia DNA in post-mortem brain frontal cortex from patients with schizophrenia, Schizophrenia Research 129(2011)191-195
29. E. Bazala, J. Renda, :
Latentní infekce chlamydiemi příčinou zdravotních potíží chovatelů a personálu? Veterinářství
42, č. 11, 407-409, 1992,

Contact:

Emil Bazala, Vítězná 588, 784 01 Litovel, Czech Republic

E-mail: bazalaemil@seznam.cz

In Olomouc, May 18, 2015

This text was updated on February 20, 2018 by Ing. E. Bazala- 1st Vice Chairman of the "Chlamydie z.s." (previously named Chlamydie o.s.)