

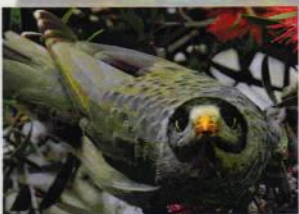
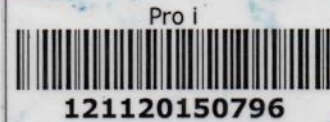
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PROCEEDING

International Seminar

THE ROLE OF VETERINARY SCIENCE
TO SUPPORT MILLENNIUM DEVELOPMENT GOALS
and

THE 12th ASIAN ASSOCIATION OF VETERINARY SCHOOLS CONGRESS



FACULTY OF VETERINARY MEDICINE
UNIVERSITAS AIRLANGGA



CERTIFICATE OF ATTENDANCE

This is to certify that

Bambang Sektiari Lukiswanto

AS SPEAKER

in THE 12th ASIAN ASSOCIATION
OF VETERINARY SCHOOLS CONGRESS

was held in JW Marriott Hotel Surabaya - Indonesia
September 4th - 6th, 2013

President of AAVS
Dean of Faculty Veterinary Medicine
Universitas Airlangga - Indonesia

Prof. Hj. Romziah Sidik., DVM., Ph.D.



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JW MARRIOTT HOTEL, SURABAYA-INDONESIA
4th - 6th SEPTEMBER 2013**

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UNIVERSITAS AIRLANGGA**

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REMARKS OF ORGANIZING COMMITTEE THE ROLE OF VETERINARY SCIENCE TO SUPPORT MILENIUM DEVELOPMENT GOALS

Dr. Dadik Raharjo, M.Kes, DVM.
Chairman

Ladies and Gentleman,
I have the honour of welcome delegates and speakers in International Seminar with the title "role of veterinary science to support milenium development goals" and highest ours appreciation for Your participation on this seminar.

The seminar will exchange information that we can carefully increasing the role of veterinary science to support development goals. Hopefully through this event will take advantage of the many opportunities to colloborative work between indonesia instituion and also with overseas institution.

On behalf of Organizing committe, I would like to express our sincere gratitude and thanks to all participant at this seminar international.

I hope that this program will be useful and enjoy during stay in Surabaya.

Best Regards



REMARK OF DEAN FACULTY OF VETERINARY MEDICINE UNIVERSITAS AIRLANGGA AAVS PRESIDENT

Prof. Romziah Sidik, Ph.D., DVM.

Bismillahi rochmanir rochim,
Assalamu'alaikum warochmatullahi wabarokatu.

Good morning Ladies and Gentlemen,
Welcome to Surabaya, East Java – Indonesia.

On behalf Faculty of Veterinary Medicine, Universitas Airlangga and Asian Association of Veterinary Schools, I would like to say thank you for the Excellencies: Rector Universitas Airlangga, The Director General of Livestock and Animal Health-Ministry of Agriculture-Republic of Indonesia: Ir. Syukur Iwantoro, MS), The Coordinating Minister for people's Welfare Republic of Indonesia: Dr. Agung Laksono; The OIE Sub Regional Representation for South-East-Asia delegates (Dr. Dirk Van Aken, Dr. Mary Joy Gordoncillo, Dr. Ronello Abila and Ms.Melada Ruengjumroonnath), the Presidents of SEAVSA (Dr. Srihadi agung Priyono) President of IVSA (Indonesian Veterinary School Association): Prof. Made Dhamriyasa, and all Deans of SEAVSA (South-East Asia Veterinary School Association) members, AAVS (Asian Association of Veterinary Schools: Japan, Korea, Taiwan, Indonesia, Malaysia, Thailand, Philippines, Mongolia, Vietnam, Myanmar, Lao and Cambodia) and IVSA (Indonesian Veterinary School Association), The President of Indonesia Veterinary Medicine Association: DVM.Wiwiek Bagja), Quarantine and Inspection Agency Commissioner of Korea: Prof Yong Ho Park), Secretary General and Asian Society of Zoo and Wild Life Medicine: Dr. Kimmura Junpei; All the invite speakers comes from: Faculty of Medicine, Faculty of Veterinary Medicine and Tropical Disease Center of Universitas Airlangga, Feed Technology and Nutrition, Research Institute for Animal Production,-Indonesia, College of Veterinary Medicine Murdoch University, Division of Molecular Medicine and medical Genetic, Department of Pathology, Kobe University, Universiti Putra Malaysia, Graduate School of Agricultural and life Sciences University of Tokyo Japan;

The honorable of all presenter and participants, also the sponsorships who are joint in the International Seminar with the themes:“The Role of Veterinary Science to Support Millennium Development Goals and the 12th Asian Association of Veterinary Schools Congress” during 2 days (5th-6th September 2013), which is Faculty of Veterinary Medicine of Universitas Airlangga as the hosted of the event.

Ladies and Gentlemen,

About 193 United Nation member states and at least 23 international organizations declared Millennium Development Goals (MDGs), and they have agreed to achieve the nine MDGs such as: eradicating extreme poverty and hunger, universal primary education, promoting gender quality, and empowering women, reducing child mortality rates, improving maternal health, combating HIV /AIDS, malaria and other diseases, ensuring environmental sustainability, and developing a global partnership for development.

Animal diseases which form an epizootic (Apthae epizootic, mad cows diseases) and or zoonotic like Avian Flu, SARS (Severe Acute Respiratory Syndrome), Salmonellosis, Brucellosis, tuberculosis, rabies are threat to global security warned by Director General of the Word Organization as well as World Animal Health Organization (OIE). These diseases have potentially disastrous consequences if it's not eliminates at their primary source. As we know that about systemic review of 1,415 pathogens are known about 61% infects humans.

To combat and fighting zoonosis diseases, Indonesia has launching the National Commission of Zoonosis Control under Coordinator Minister for people's Welfare Republic of Indonesia.

So, the Veterinary Medicine Schools in Asian country has responsibility to provide some courses in the curricula to achieve Day one competencies. Four pillars could be strengthening by Veterinary School such as: education system, research, public extension and or services, and collaborations. The quality assurance should be guaranteed by each Veterinary Schools. In the event of AAVS congress programs to produce and launch the Logo of AAVS, and the consequence to be added the logo profile and philosophy in AAVS by Law. The other program is to perform Veterinary school curricula and gap analysis. Therefore, Veterinary school curricula in Asian country could be standardized.

On behalf Organizing Committee, I would like to say thank you to Director Research and Public Community Services Board of Directorate General of Higher Education, Ministry Education and Culture Republic of Indonesia, The OIE SRR SEA, Faculty of Veterinary Medicine Universitas Airlangga, IVSA, and the sponsorships from veterinary industries for supporting finance that the event become perform by successfully.

Ladies and Gentlemen,

Again, I would like to say thank you for your participative to the event, and please follow and enjoy the programs as well as your visit in Surabaya by happiness.

Billahi taufik wal hidayah, Wassalamu'alaikum warohmatullahi wa barokatu.



REMARKS OF RECTOR OF UNIVERSITAS AIRLANGGA

Prof. Dr. H. Fasich, Apt.

Assalamu'alaikum Warahmatullahi Wabarakatuh

First of all, let us pray to Allah SWT that because of His blessings we are able to be here in this very important event.

Secondly, I would like to say to all participants: Welcome to Surabaya, East Java, Indonesia!

It is indeed a great honour for me to have the opportunity to be among the participants of this very special occasion, where all of us are going to have in-depth discussion about a very important and interesting topic closely related to veterinary science and the millennium development goals as a way to increase the quality of human health.

Indonesia's Millennium Development Goals (MDGs) are based on the eight international development goals that were officially established following the Millennium Summit of the United Nations in 2000, one of touches on the effort to combat wide-spread diseases such as HIV/AIDS and diseases transmitted by animals such as malaria, avian flu, swine flu, and so forth, which could be a serious threat to global security and human development.

Therefore, concerns over these MDGs from the point of view of veterinary science, especially among the researchers, have to be raised these day. There are numerous recent for conducting scientific research and other scientific activities to bring the MDGs to a success.

In this very special event, I would like to express my deepest appreciation to all members Asian Association of Veterinary Schools for their success in conducting better and better collaborations. Such collaborations are a pre-requisite for all efforts in improving performances, including the standardization of veterinary curricula in the ASEAN region and among Asian countries, in controlling the spread of zoonosis, and in developing and improving bio safety, bio security, surveillance, animal health and animal production.

I strongly believe and hope that this seminar and congress will be able to strengthen the existing networks that occurred among all the members of the association, as the main step in the eradication and prevention of infectious diseases, especially once that are related to animals, to support the Millennium Development Goals.

To all participants, I would like to thank you very much for coming to this forum. And to the organizing committee, I would like to give my sincerest appreciation for their wonderful job and hardwork in organizing this event.

I hope the seminar and the congress will be fruitful to all of use and lastly, please enjoy your stay in Surabaya.

Thank you very much,

Wassalammu'alaikum warahmatullahi Wabarakatuh.

List of Content

	Page
Arts in Pig, Sheep and Goat: Experiences in Thailand M Techakumphu, C. Tretipskul, N, Anakkul, S. Panyaboriban ¹ , J. Suwimon- teerabutr and T. Tharasanit	1
Food Security – The Role of Veterinarians in an Emerging World Problem ID Robertson	6
Past, present and Future of Asian Society off Zoo and Wildlife Medicine (aszwm) Junpei Kimura	11
Standardized Veterinary Competence to Support Global Food Security and Infectious Animal Disease Control Wiwiek Bagja	12
How to Implement Policies and Regulations to Control Antimicrobial Resistance in Animal Husbandry? Yong Ho Park	13
Warning for Animal Parasites on HIV/AIDS Patients Nasronudin	16
Vector Vaccines: a New Generation of Veterinary Vaccines M. Hair-Bejo	21
One Health System for Controlling Zoonotic Diseases Srihadi Agungpriyono, Denny Widaya Lukman	25
Development of a Novel Oral Contraceptive for the Population Control of Wild Mammals Based on the Neuroendocrine Mechanism Generating Gonadotropin Releasing Hormone (GNRH) Pulse Generation Kei-ichiro Maeda, TanuPinyopummintr, Hiroko Tsukamura	27
Reflection of Animal Welfare Principles as a Part of Professionalism Romziah, S.	31
Non Typhoidal Salmonellosis as Food Borne Disease Dadik Raharjo	37
Current Issue on Feed Additives Utilization in Indonesia Budi Tangendjaja	42
Mitochondrial Genetic Defect And Disease in Human Agung Pranoto	51

Semen Characteristics of Captive Sumatran Tiger (<i>Panthera tigris Sumatrae</i>) Ni Wayan Kurniani Karja, Mokhammad Fahrudin, Mohamad Agus Setiadi, Ligaya ITA Tumbelaka, Retno Sudarwati, Yohana Tri Hastuti, Bongot Huaso Mulia Ardyta Widianti, Keni Sultan, Kazuhiro Kikuchi, Takeshige Otoi	52
Rabies In Animals In Bali Province from 2008-2012 I Ketut Eli Supartika, I Ketut Wirata, I Gede Joni Uliantara, I Wayan Masa Tenaya, I Ketut Diarmita	56
Effectiveness of Red Algae (<i>Eucheuma Spinosum</i>) as Pathogenic Antibacterial in Coastal Organisms and Human Fattah, Afhariman, Muslimin, L, R, W Andy Omar, S. Bin	63
Anti-<i>Coxiella Burnetii</i> Antibody Specific for Q Fever Diagnosis Immunohistochemically in Ruminant Agus Setiyono, Mawar Subangkit, William Marea, Vivi Dwi Santi, Lia Elvira, Mutya Fadhilah and Sulphi Aufa	69
Identification of Patogenic Bacteria <i>Escherichia Coli</i> O157:H7 and <i>Staphylococcus Aureus</i> from Pasteurised and Non Pasteurised Bovine Fresh Milk Lucia R.Winata Muslimin, Dwi Kesumasari, M. Aqshar Marsani, Nurul Inayah, Ainin arsylini, and A.Aswan Salam	73
Clinical Sign Pattern of Infection <i>Microsporium canis</i> on Dogs Gerson Yohanes I Sakan, Puspa Wikan Sari, Yanuartono and Soedarmanto Indarjulianto	77
Detection of Autoimmune Thyroiditis Diseases (Aitd) : Based on Thyroid Peroxidase (TPO) Autoantibody by Immonochromatography Rapid Test Aulanni'am, Agung Pramana. W.Marhendra and Dyah Kinasih Wuragil	81
The Effect of Probiotic on <i>Autoimmune Thyroiditis Model</i> (AITD) Rat (<i>Rattus norvegicus</i>) Induced Sodium Iodide (NaI) Supplementation Hendra Legatawa, Wakhidatus Inrya, Adib Musta'in, Rizki Rosmallasari, Bayu Noviaji, Dyah Kinasih Wuragil and Agung Pramana W. Marhendra	85
Analysis of <i>Salmonella spp.</i> from Poultry Carcasses Industries in Malang, Indonesia Dyah Kinasih Wuragil, Masdiana C. Padaga	90
Molecular Genetic Analysis of Indigenous Bima Horse (<i>Equus Caballus</i>) Based on Cytochrome B Sequences Yuriadi, Rini Widayanti, Wayan Tunas Artama, Charles Rangga Tabbu.....	94
The Study of Binahong Leaves Extract (<i>Anredera cordifolia</i>) Ointment Ethanol Fraction on Skin Incision Wound Healing Process in Dog (<i>Canis familiaris</i>) Slamet Raharjo, Sri Hartati, Agus Budi Santosa, Fajar Kurnniawan	102

Improving Milk Quality and Udder Health of Etawah Crossedbred Goat by Good Milking Procedure Yuni Suranindyah, Sari Retno Diwanti, Ditto Aji Diantha, Nurliyani	107
Blood Chemistry Parameters of Adult Female Turi Ducks Irkham Widijono, Sri Hartati, Hary Purnamaningsih	112
The Influence of <i>Temu Hitam (Curcuma aeruginosa roxb.)</i> Rhizomes Ethanolic Extract Against Total Intraepithelial Lymphocyte Small Intestine on Layer Chicken Which Infect by <i>Ascaridia galli</i> Handayu Untari, Eka Pramytha Hestianah	117
Potential of Beluntas (<i>Plucea indica</i> L.) in Animal Feed to Decrease the Ammonia, Hydrogen Sulfide and Water Levels on Broiler Excreta Taufik Hidayatulloh, Anggun Rahmawati, Zakia Sheila Faradilla	121
The Xenobiotic Metabolism in Lead Intoxication Mice with Vitamin C Supplementation Juliana Christyaningsih	127
The Analysis of Distribution of <i>Mycobacterium bovis</i> Infection with Conventional Techniques, Polymerase Chain Reaction (PCR) and Geographical Information System (GIS) in Dairy Cow Cattle in Enrekang Regency Sartika juwita, Moch. Hatta, Lucia Muslimin, Ahmad Nadif	135
The Effect of Cigarette Smoke Exposure due to Placental Apoptosis and Gestation Outcomes at Gestation Disorders Mechanism in White Rat (<i>Rattus Norvegicus</i>) Portia Sumarsono, Sruti Listra Adrenalin, Ika Wahyuni, Bayu Digka, Christian Marco, and Widjiati	143
Some Factors that May Increase the Potency of <i>Trypanosomiasis</i> that was Caused by <i>Trypanosoma Evansi</i> to Become Zoonosis: A Review Herlina Susijanti, Fx. Satria Pinanditya, Rian Hari Suharto	148
Antibiotic Resistance in <i>Staphylococcus intermedius</i> Strain Isolated from Dogs with Dermatological Disorders Mustofa Helmi Effendi, Ngakan Made Rai Widjaja and Ristin Riwayanti	152
Combination of <i>Spirulina</i> and Fermented Rumen Content Meal As Substitution in Feed Toward Feed Efficiency of Male Broiler Mirni Lamid	156
Potential of Vitamin E (α-Tocopherol) Against on Spermatogenic Cells and Seminiferous Tubule Diameter Testes of Mice (<i>Mus Muscular</i>) Induced with 2, 3, 7, 8-Tetrachlorodibenzo-P-Dioxin (TCDD) Rosida Achlis, Ismudiono, Hani Plumeriastuti	160

The Activity of Vitamin E (α-Tocopherol) as an Antioxidant on Histopathology of Balb/C Mice's Liver Exposed by 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD) Ajeng Erika Prihastuti Haskito, Dewa Ketut Meles, Hani Plumeriastuti	166
α Tokoferol in Sperm Muscovy Retailed During Storage to Temperature 27°C. Fitriani	174
Prevalence and Infection Rate of Gastrointestinal Nematodosis of Limousine and Simmental Crossbreed in the Loceret District Nganjuk Hasutji Endah Narumi, Mamluatus Sa'diyah, Setiawan Koesdarto	177
The Use of <i>Spirulina</i> in Substitution of Rumen Content Meal Wich is Fermented in Feed on Carcass Percentage of Male Broiler Mia Anjar Sari, Wurlina, Mirni Lamid	181
Crude Fiber Digestibility Value of Complete Feed with Omega 9 in the Javanese Fat Tailed Sheep Ninik Rahayuningsih, Tri Nurhajati, Romziah, S, Mirni, L, Retno, S.P	183
Understanding the Biological Products and Development of Biosimilars Nurina Hasanatuludhhiyah, Abdul Khairul Rizki Purba	185
Protein Digestibility Value of Complete Feed With Omega 9 on Javanese Fat Tailed Sheep Virdhanur Chorina, Tri Nurhajati, Romziah Sidik, Mirni Lamid	191
Embryo Collection toward Different Doses of PMSG in Rats (<i>Ratus norvegicus</i>) Bambang Poernomo S	194
Identical Twins Production of Rat (<i>Ratus norvegicus</i>) Through a Metal Razor Blade Bambang Poernomo S	197
Clinical Case and Incidence Rate of Mite Infestation on Dog by Scraping Examination at Veterinary Teaching Hospital of Faculty of Veterinary Medicine, Bogor Agricultural University Agus Wijaya	201
Effect of Oviduct Flushing Fluid Addition on Polyspermy Rate of Goat Oocyte in <i>In Vitro</i> Fertilization Yayuk Kholifah, Sri Pantja Madyawati, Wurlina	205
Therapeutic Effectiveness of Rat Bone Marrow Stem Cells in Rats (<i>Rattus Novergicus</i>) Model Exposed to Particulate Matter on Congenital Defects Sri Pantja Madyawati, Widjiati, Rimayanti, Agung Budianto	209

Expression of Cytochrome C as Apoptotic Indicator and it Relation With Sper Viability and Motility of Domba Ekor Gemuk Frozen Semen In Differe Thawing Duration	
Rahmalia Dwi Suindarti, Imam Mustofa, Suherni Susilowati	213
Effects of the Timing of Insemination by The Use of a Heat Detector on the Incidence of Metestrous Bleeding and Non-Return Rate at Day 21	
Ismudiono, Pudji Srianto and Trilas Sardjito	217
Rapid Detection and Phylogenetic Analysis of West Nile Virus as Zoonosis New Emerging Disease in Patients with Fever of Unknown Origin (FUO) in Surabaya	
E. Bimo Aksono H, Nasronudin, Maria Inge Lusida, Aldise Marieta N, M. Qushai, N. Fajar, Lilis Mundri Jannah, Brian Eka Rachman, Musofa Rusli	221
Comparative Study of Pathogenicity Of H5n1 Virus Between in Tree Sparrow, Scaly Breasted Munia,And Backyard Chickens As Natural Source of Infection in East Java – Indonesia	
Emmanuel Djoko Poetranto, Djoko Legowo, Suwarno, Fedik A Rantam.....	226
Toxoplasmosis :Changes in Trophoblast Apoptosis index Mice (<i>Musmusculus</i>) Given Anti-<i>Toxoplasma gondii</i> ESA (Excretory Secretory Antigen) Immunoglobulin Y	
Lucia Tri Suwanti, Hani Plumeriastuti, Dessy Fajarwati	233
Egg Yolk Derived Anti-Rabies Antibody Production as Immunotherapy Agents	
Suryo Kuncorojakti	240
Relations of Weight And Age to The Front Feet Sole Area of Merino Ram	
Benjamin Christoffel Tehupuring, Dady Soegianto Nazar, Sarmanu.....	244
Molecular Characterization of Nucleoprotein <i>Antigenic Sites</i> of Indonesian Isolate Rabies Virus	
Jola Rahmahani and Suwarno	248
Homology Analysis of G Protein Coding Genes of Rabies Virus Sulawesi Isolate Against Pasteur Strain	
Riski Arya Pradikta and Suwarno	254
The Production of Plastic Progesterone Implants for Estrus Synchronization in Big Tail Sheep From Sapudi Island	
Sunaryo Hadi Warsito, Setyawati Sigit, Herry Agoes Hermadi	258
Production of Frozen Dry Equine Chorionic Gonadotrophin (eCG) from Pregnant Mare Sera	
Herry Agoes Hermadi, Laba Mahaputra	262
Acrosin Half-Breed Etawa Goat (PE) Sperm Characteristic to Increase Spermatozoa Quality	
Budi Utomo	270

The Prevalence of Intestinal Tract Worm Disease of Beef Cattle Brahman and Peranakan Ongole (Po) in the Subdistrict Sugio, Lamongan Faris Amsyari Khozin, Sri Mumpuni Sosiawati, Husni Anwar Kusnoto	282
Osteopontin Maintain Post-Thawed Sperm Mitochondrial Potential Membrane of Friesian Holstein Bull Tatik Hernawati, Yudit Oktanella, Abdul Samik, Ngakan Made Rai Widjaja	287
Protein Utilization of Spirulina in Response to Protein Efficiency Ratio in Laying Hens Widya Paramita Lokapirnasari	293
28-DAY NON RETURN RATES OF DAIRY COWS AS BOTH ACCEPTORS AND RECIPIENTS Trilas Sardjito, Pudji Srianto and Ismudiono	296
Hymenolepiasis Nana, is a Scarce Case in Zoonosis R. Heru Prasetyo	299
Financial Analysis of Layer Chicken Farms in Sub-District Kedungpring of Lamongan Sunaryo Hadi Warsito	302
The Potency of Protein Ghrelin and Neuropeptide Y as Materials for Energy Balance to Set Feed Efficiency of Broiler Chicken Nove Hidajati Romziah Sidik, Ratna Damayanti	306
Proteins Signal Transducers and Activators Transcription (STAT) 5a and 5b as a Candidate Growth Promoter on Broiler Chicken Anwar Ma'ruf, Romziah Sidik and Kuncoro Pugh S	310
Comparison of The Spermatozoa Quality of Post Thawing Simental Cow That Centrifugated Use Yolk Skim Diluter and Soya Lecithin With Malondialdehyde (MDA) Level Measurement Novia Candrawati, Suherni Susilowati, Bambang Purnomo	314
Incidence Rate and Small Animal Geriatric Diseases in Veterinary Teaching Hospital Airlangga University Surabaya on 2010-2011 Nusdianto Triakoso	318
(In Vitro) Antibacterial Activity of the Supernatant of Shrimp Pond Isolate Bacillus subtilis Against Aeromonas hydrophila and Staphylococcus aureus Erni Rosilawati Sabar Iman, Elyza Noor Fitria, Suzanita Utama	323
The Effect of Anti- Toxoplasma gondii Esa Immunoglobulin Y (IgY) Againsts Liver Damage in Mice Gestation were Infected Tachyzoite Toxoplasma gondii Lucia Tri Suwanti, Hani Plumeriastuti, Basuki Suryo Jatmiko	328
Effect Various Height of Equilibration Nitrogen Vapour on Post Thawing Semen Quality at Madura Bull Cattle Hermin Ratnani and Suyadi	335

The Potential of Various feed Pellet to Weight Gain and Feed Conversion of Rex Rabbit (<i>Oryctolagus cuniculus</i>)	
Nimas Ayu Pertiwi, Romziah Sidik, Dady Soegianto Nazar	345
Ideal Manajemen System for the Feasibility Ranch Purebred Cats (Cattery) In Surabaya, Sidoarjo and Gresik	
Ratna Widyawati, Koesnoto Supranianondo, Bambang Sektiari L	348
Seroprevalence of Influenza Virus H5 Isolated from Mojosari Broiler Ducks (<i>Anas Javanicus</i>) Originated From Two Subdistricts in Jombang District East Java Province	
A. P. Rahardjo, A. T. S. Estoepangestie, N. H. Risanti.....	355
Effect of Epigallocatechin-3-Gallate (Egcg) Content in The Green Tea as a Diet for Expression of <i>Transforming Growth Factor B</i> (Tgf-B), Impaired Folliculogenesis and Reproductive Status of Rats (<i>Rattus Norvegicus</i>)	
Widjiati, Ika Wahyuni, Portia Sumarsono, Sruti Listra adrenalin, Christian Marco Hadi	362
Increased Neural and Glial Cells Death of Embryonic Cerebral Cortex Exposed to Carbofuran Insecticide in Prenatal Period	
Epy Muhammad Luqman, Ari Gunawan, Harjanto, I Ketut Sudiana dan Widjiati	366
The Events of Helminthiasis in Digestive Tract of Pre and Post Weaning on Cattle in Lumajang Plateau Region	
Ferri Andrianto, Setiawan Koesdarto, Nanik Sianita Widjaja	376
Comparisons of Nutritive Value Between Dairy Cow Milk and Yoghurt	
Romziah S., Tri Bhawono D., Mirni L., Nenny H	382
The Blood Urea Nitrogen (BUN)And Creatininconcentration in Local Male Cats after Feeding by Dry Commercial Food	
Lita Rakhma Yustinasari, Suryo Kuncorojakti	390
Potencial Test of Local Product PMSG (<i>Pregnant Mare Serum Gonadotropin</i>) Polyclonal Antibody (Abpo PMSH) Originated from Male Rabbit (<i>Orictolagus Cuniculus</i>) on Mice (<i>Mus Musculus</i>) Foetus Number	
Indra Rahmawati	394
The Biopotency of PMSG (Pregnant Mare Serum Gonadotrophin) from Local Horse Toward Pregnancy Totally in Madura Cattle	
Muharti Rahaju, Herry Agoes Hermadi, Fedik Abdul Rantam.....	401
The Use of Recycle Soybean Fermented Cake (Tempe) with Cellulolytic Bacteria From <i>Spodoptera litura</i> (Ulat Grayak) as Corn Substitution to Carcass and Abdominal Fat Percentage of Duck	
Sri Hidanah and Dady Soegianto Nazar	406
Effect Of Non-Competitive Antagonist NMDA Receptors (N-methyl-D-aspartate), Ketamine, on NR2B Subunit Expression of NMDA Receptors In Neuropathic Pain Management	
Indiastuti D.N, Setiawati Y., Khotib J	411

The Potency of Kelor Leaves (<i>Moringa oleifera</i>) for Treatment of Hypercholesterolemia in Mice (<i>Mus musculus</i>) M. Gandul Atik Yuliani, M. Chalid Ardiansyah, Yuanistia Shally, Haydy Layli Orilina, Qurrota A'yuni, Nur Faidah	418
Bacteriocin Produced From Lactic Acid Bacteria as an Antibacteria and The Effect as Therapeutic of Dairy Cattle Sub Clinic Mastitis Nenny Harijani	423
Exploration of Antibacteria From Lactic Acid Bacteria Against to Escherichia Coli and The Effect to Therapeutical of Dairy Cattle Sub Clinic Mastitis Hani Plumeriastuti	426
The Role of External Heat Shock Protein 70 (HSP70) Supplementation On Expression of Caspase 3 in Oocyte During Vitrification Rimayanti	429
The Potency of Repetitive DNA Fragment for Molecular Diagnosis of Toxoplasmosis Dyah Ayu OktavianieArdhiana Pratama, Sumartono and Wayan T. Artama	434
Molecular Analysis of a Variable Region on Protective Antigen Gene of Selected <i>Bacillus Anthracis</i> Isolates from Central Java And Yogyakarta Special Region Maxs Urias Ebenhaizar Sanam, Widya Asmara, Agnesia Endang Tri Hastuti Wahyuni, Michael Haryadi Wibowo	441
Antibacterials Effect Of <i>Streptomyces</i> Sp-Mws1, <i>Streptomyces</i> Sp-Mws3, And <i>Streptomyces</i> Sp-Mws6 On Non Extended-Spectrum B-Lactamase (Esbl)-Producing <i>Klebsiella Pneumoniae</i> Yuani Setiawati, Danti Nur Indiasuti, Wiwin Retnowati.....	449
Relationship Management System Animal Hospital With Pattern Service Disease In Animal Hospital Surabaya Miyayu Soneta Sofyan	457
Neutrophilia As a Spesific Clinical Sign to Differentiate Acute Cholangiohepatitis With Others Liver Inflammatory Diseases in Cat Wiwik Misaco Yuniarti, Bambang Sektiari Lukiswanto	465
Effect of Transport on Glucose in Sheep Sarmin, Amelia Hana, P udji Astuti, Yuda.Heru Fibrianto, Claude Mona Airin	471

Neutrophilia As a Specific Clinical Sign to Differentiate Acute Cholangiohepatitis With Others Liver Inflammatory Diseases in Cats

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Abstract

Cholangiohepatitis is a interesting disease in cats. All breeds of cats can be affected. Male cats seem to have acute cholangiohepatitis more often than do females. A case of acute cholangiohepatitis in a 3-year-old, male, domestic cat is described. The cat was admitted to the Veterinary Teaching Hospital of Veterinary Faculty, Airlangga University Surabaya with a several days history of weakness, poor appetites, vomiting, and weight loss. Remarkable physical signs were lethargy, moderat dehydration, icteric sclera, pale and icteric *mucous membranes* and conjunctiva, fever but heart rate and respiratory rate were normal. When the abdominal region was gently palpated, hepatomegaly have been found (confirmed by abdominal radiographic examination) and the cat exhibit an abdominal pain. On hematological examination, the complete blood count reveal slightly increasing of leucocyte especially stab neutrophil (neutrophilia). The liver enzymes (SGOT, SGPT), and bilirubin levels were all above the normal range. The prognosis was unpredictable, but the animal has been survive after the first 3 months, than the long-term survival can be supposed.

Keywords : acute cholangiohepatitis, cat, neutrophilia, hepatomegaly.

INTRODUCTION

A three-year old male domestic cat was brought to the Veterinary Teaching Hospital of Veterinary Faculty, Airlangga University Surabaya, with the complaint of anorexia for one week, recent weight loss and weakness, poor appetites, vomiting, and fever. On physical examination, mucosa were icteric. There was a slight mucus discharge from both eyes. The animal was emaciated and approximately 8% dehydrated. Heart rate and respiratory rate were within normal values. The abdominal palpation revealed hepatomegaly and abdominal pain. Clinical laboratory tests has been done by hematological and serum biochemical tests (Table 1.).

Tabel 1. Haematological result determined in cat diagnosed for acute cholangiohepitis. (Value indicated in bold were outside usual range).

Parameter	Patient Value	Normal Value (Candyce et al., 2008).
Hb	12.2	8,9-15 g/dl
Leucocytes	19.000	5.000-19.000 mm ³
Erythrocytes	5.3	5.000.000-10.000.000 mm ³
Eosinophyl	190	0-1.500
Basophyl	0	0- 300
Neutrophyls	14.200	2.500-12.500
Lymphocytes	2.660	1.500-7.000
Monocytes	950	0-850
Thrombocytes	200.000	300.000-800.000/ul
PCV	45	24-45%
Reticulocytes	0,4	0-1,5%
AST / SGOT	50	10-43 U/L
ALT/ SGPT	195	60-70 U/L
ALP	80	8-76 U/L
Direct bilirubin	0,5	0-0,1 mg/dl
Indirect bilirubin	0,7	0-0,5 mg/dl
Total bilirubin	1,2	0-0,6 mg/dl

The complete blood count showed the slightly increase of number of leucocyte and revealed especially neutrophilia with a significant left shift neutrophils. Throughout biochemical results, high bilirubin level (direct and indirect) were evidenced and were associated with serum bilirubin elevation. Radiography examination showed hepatomegaly with homogen increase in radio-opacity (Figure 1.).

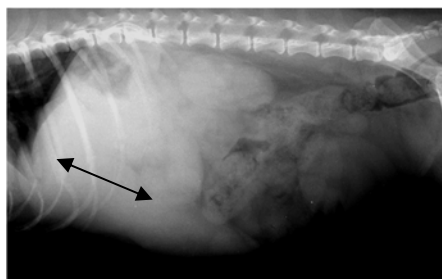


Figure 1. Enlargement of the liver (hepatomegaly). The liver is seen extend well beyond the costal arc to caudo-ventral abdomen.

The diagnosis of acute cholangiohepatitis of this cat has been made. Amoxicillin-Clavulanic (10 mg/bw/bid) has been administrated for 4 weeks, the animal showed relative improvement and had an favorable clinical progress so the long-term antibiotic treatment has been decided. To restore the cat appetites and maintain normal fluid balance, the IV fluid therapy, nutritional supplements, and dietary changes has been done. Differential diagnosis of acute cholangiohepatitis are chronic cholangiohepatitis and lymphocytic cholangitis. The prognosis was

dubius and unpredictable, but the animal has been survive for the first 3 months after being diagnosed and treated, than the long-term survival can be supposed.

DISCUSSION

Hepatitis is a rare disease that attacks the cat. However, cholangiohepatitis, an inflammatory disease in the hepatobiliary system, is a common disease found in cats. In a retrospective study of inflammatory liver disease in 78 cats, more than 80% of cats with cholangiohepatitis and also suffer from inflammatory bowel diseases (IBD), about half of them showed mild pancreatitis. This implies that there is a relationship between inflammatory disease of the abdominal organs (Tams, 2003).

Acute cholangiohepatitis is often also referred to acute neutrophilic cholangitis. Ascendant neutrophilic cholangitis due to biliary tract infection originating from the intestinal tract. Histologically, neutrophilic cholangitis is characterized by the presence of neutrophils in the lumen of the bile duct and bile duct epithelial wall. Usually also accompanied by a neutrophilic inflammatory reaction around the bile ducts in the portal area. Neutrophilic cholangitis is usually an acute illness, but during a chronic, inflammatory infiltration will be characterized by a mixture of neutrophils, lymphocytes, and plasma cells. A holistic inflammation of the bile ducts often lead to cholestasis. Most of the cats showing clinical symptoms icterus. In this condition, there is no obstacle opening of the bile duct into the duodenum and therefore occurs distention of the bile ducts.

Acute cholangiohepatitis is characterized by neutrophil infiltration in the portal area of the liver lobule and bile duct caused by the damage and necrosis of periportal hepatocytes adjacent to the area. Acute cholangiohepatitis can occur due to ascendent bacterial infection in the bile ducts, although in the number of cases we can isolate the bacteria from the liver or the gall bladder. Frequently isolated organism was *Bacteroides*, *Escherichia coli*, *Clostridium* and α hemolytic *Streptococcus*. Congenital or acquired abnormalities in the biliary system, such as anatomical abnormalities cholelith gallbladder and predisposes cats suffer cholangiohepatitis. Cholelith rarely causes inflammation of the liver. In contrast, the thickening of bile due to evaporation can cause partial or total obstruction, both the intrahepatic and extrahepatic bile ducts and gallbladder, which can often lead to cholangiohepatitis in cats.

The different between acute and chronic cholangiohepatitis are the present of inflammatory cell infiltration mixture of neutrophils, lymphocytes and plasma cells in the portal area. Unlike acute cholangiohepatitis, in chronic conditions will be apparent hypertrophy and fibrosis of the bile ducts portal area. On worm infestation, cholangitis usually accompanied by an increase in eosinophils in the portal area, while in chronic cholangiohepatitis rarely or even not accompanied by eosinophil infiltration in the portal area.

Cholangiohepatitis is also different when compared with lymphocytic. Lymphocytic cholangitis is characterized by Infiltration of lymphocytes and plasma cells (not neutrophils) in the portal area (not the bile duct) and can be accompanied by hypertrophy and fibrosis of the bile ducts with varying degrees. Many suspect that the lymphocytic cholangitis is an immune-mediated disease.

Clinical symptoms in patients with inflammatory liver disease vary widely, not specific, and often resemble other liver diseases (Table 2). Partial or total anorexia is a common clinical symptom and sometimes the only clinical symptom. Other clinical signs that can be found is weight loss, depression, vomit, diarrhea and fever. But acute cholangiohepatitis often found in younger cat (mean age 3.3 years) than cats with chronic cholangiohepatitis (average age 9 years) or lymphocytic cholangitis (median age 8.2 years) (Weiss et al., 2001). Male cats more often suffer from acute cholangiohepatitis when compared with female cats. Cats with acute cholangiohepatitis usually show clinical symptoms more acutely and severely when compared to other diseases. Prominent clinical

symptoms of acute cholangiohepatitis include fever, depression and dehydration. Ichterus very easily checked on the sclera, but it also can be easily observed in the area of soft palate or under the tongue. When liver size is evaluated radiographically, its showed hepatomegaly.

Table 2. Signalement and Clinical Symptoms Related to Cholangiohepatitis

Parameter	Acute Cholangiohepatitis	Chronic cholangiohepatitis	Lymphocyte Cholangitis
Age	Young	Older	Older
Sex	Male	Male	-
Onset of clinical symptom	Days	Weeks	Weeks
Severity of disease	Severe	Mild-Moderate	Moderate
Anorexia	Frequently	Frequently	Frequently
Wieght loss	Frequently	Frequently	Frequently
Fever	Frequently	Rarely	Rarely
Icterus	Frequently	Frequently	Frequently
Hepatomegaly	Frequently	Frequently	Frequently
Ascites	Rarely	Rarely	Rarely

(Weiss et al., 2001)

Haematologic and biochemical testing are an important step to determine the diagnosis (Tabel 3.). Fasting bile acids is an examination that most consistently increase. The complete blood count showed the slightly increase of number of leucocyte and revealed especially neutrophilia with a significant left shift neutrophils. Serum bilirubin levels and alkaline phosphatase (ALP) was slightly increased, while the levels of alanine aminotransferase (ALT) increased significantly. This profile can be used to distinguish between acute and chronic cholangiohepatitis, lymphocytic cholangitis. Cat with lymphocytic cholangitis is often characterized by normal or slightly increased of bilirubin, ALP and ALT serum. On the other liver diseases in cats, increased GGT always accompanied by increased ALP. When the clinical chemistry lead to liver disease, hyperthyroidism should be rule out. Hyperthyroid cats frequently have changes in ALP and ALT levels that maybe indistinguishable from cats with inflammation of the liver disease. Therapy for hyperthyroidism will cause decrease in levels of these enzymes.

Table 3. Laboratory change of Inflammatory Disease in Liver

Parameter	Acute Cholangiohepatitis	Chronic cholangiohepatitis	Lymphocyte Cholangitis
Neutrophilia	Frequently	Rarely	Rarely
Left Shift	Frequently	Rarely	Rarely
Bilirubin Serum	Increase (mild)	Increase (moderat)	Increase (mild)
ALT	Increase (mild)	Increase (moderat)	Increase (mild-moderat)
ALP	Normal	Increase (mild-moderat)	Normal – increase (mild)
Fasting Bile Acids	Increase	Increase	Increase

(Weiss et al., 2001)

The treatment for acute cholangiohepatitis is the administration of antibiotics that are excreted well into the bile (the author prefers a treatment period of 4 weeks with amoxicillin and clavulanic acid). It is advisable to evaluate the therapy by re-examination of the bile after completion of the antibiotic treatment course. The prognosis of cat with neutrophilic cholangitis is usually very good if a diagnosis is made early in the disease process.

Long-term treatment must be conducted with the same dose. It is important to evaluate the response to therapy. Medication should be continued until total resolution can be seen (confirmed by a liver biopsy after 8 weeks of treatment). It is advisable to simultaneously treat a cat with amoxycilin and clavulanic acid during the several months. Nutrition is an important component of medical therapy for cats with cholangiohepatitis. Most cats that survived the initial period of 1 to 2 months of treatment has a good chance for cure and long-term survival.

CONCLUSION

Acute cholangiohepatitis is one of liver disease frequently in cats and has the clinical signs as others inflamatory liver disease, but acute cholangiohepatitis diagnosis can be performed by founded pathognomonis signs as acute severity of diseases, fever and neutrophylia with a significant left shift neutrophils. The diseases maybe associated with ascending bacterial infection. Favorable prognosis can be maintained if response towards therapy in first weeks is positive, but its requires a long-term antibiotic therapy.

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