stress, large populations, allowing rare events understanding. This presentation will review long-term studies on oncogenic viruses (1) and on circovirus infections (2) elaborating on human infections with similar virus-families.


Methods: Molecular integration were assessed by the detection of chimeric molecules in vivo.

Results: Avian tumor viruses include one herpes- and four retroviruses. Molecular recombination between DNA and retroviruses was created in vitro, resulting in an recombinant MDV with altered properties (Drs. Kung and Witter, USA). We now questioned multiple-virus-infections in commercial flocks, examining whether intervalviral molecular recombinations occur also in vivo, and found 25% double-virusinfected commercial flocks and 5% samples with molecular integrations. Spontaneous intervalviral recombination occurred also between retroviruses in commercial birds, emerging in the avian leukemia-subgroup-J, that caused great economic losses. Avian tumor viruses could provide animal models to human dual infections with herpesviruses and retroviruses. We also reviewed similarities between human Anellovirus and avian Circoviridae, to examine whether knowledge acquired from studies of natural and experimental avian infections with could reflect on human Anelloviruses.

Conclusion: Studies on avian circoviruses, specifically chicken anemia virus (CAV) can add to current understandings on Anellovirus infections, directed towards finding associated diseases. The health burden imposed by Circoviridae and Anellovirus infections may be underestimated because lack of awareness for search beyond the predominate clinical effects of identified pathogens. Their immunomodulatory contribution by co-infecting Circoviridae and, by analogy, human Anelloviruses necessitates consideration.

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84.007
Optimization of IgG-ELISA and molecular analysis of Reston-ebolavirus among swine in Northern Luzon, the Philippines

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Background: In late 2008, Reston-ebolavirus (RES) in swine was first reported in the world from 2 provinces in the Philippines, and those were also affected with Porcine Respiratory and Reproductive Syndrome (PRRS). The aims of this study are 1) to establish the detection of anti RES IgG by ELISA and 2) to analyze the extent of transmission and spread of RES in swine in the affected farm.

Methods: Swine samples collected in Bulacan Province and Pangasinan Province, where the RES infection was reported, were examined in this study. 1) From the lymph node of RES infected swine, RES-Nucleoprotein (RES-NP) and RES-Glycoprotein (RES-GP) gene were amplified and nucleotide sequences were determined. 2) RES-NP and GP were expressed in insect cells by recombinant baculovirus and then purified. IgG-ELISA was compared with different antigens: purified recombinant RES-NP and GP purified recombinant Zaire Ebola (ZAI)-NP, RES-infected cell antigens (authentic-RES, prepared by US-CDC), ZAI-infected cell antigens (authentic-ZAI, prepared by US-CDC). Immunofluorescent (IF) test using Hela cells expressing the recombinant RES-NP, GP and ZAI-NP were also conducted.

Results: 1) Multiple mutations were detected in variable region of GP, compared with the RES from the monkeys in 1989, 1992 and 1996. 2) IgG-ELISA using purified recombinant RES-NP, GP and authentic RES showed the highest sensitivity, followed by ZAI-infected cells and lowest with purified recombinant ZAI-NP. The serum samples being positive in IgGELISA with RES-NP and GP were confirmed as such in IF test. Approximately 20% of the swine serum from Bulacan Province showed positive.

Conclusion: It is still unclear if RES is pathogenic in swine and how PRRS is involved in infection and spread of RES among swine. Further seroepidemiological survey in swine in other farms is still necessary to reveal the actual situation of RES in the Philippines. RES antibody detection system will be very useful in augmenting the RES detection systems currently available in the Philippines.

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84.008
A newly discovered viral enzyme capable of alteration of nucleic acid structure via phosphotriester and phosphodiester bonding complex: An event leading to a new frontier of research and development for viral diseases

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Background: Viruses are interested because many cause serious illness in humans, animals, and damage crop plants. During the last century, progress in the control of infectious disease through using new vaccines and drugs have reduced the threat to human. The advance of new knowledge/technology relevant to viruses provide a better way to control viral diseases. We report a newly discovered virus associated enzyme capable of altering nucleic acid structure through the formation of phospho-triester/phosphodiester bonding.

Methods: Enzyme was partially purified from plant/animal sources by combining (NH4)2SO4 Fractionation, Gel Filtration, Ion Exchange Chromatography. Virions were gifts from laboratories of the following professors: Roland Rueckert (polivirus and influenzavirus); Paul Ahlquist (Brome mosaic virus), Molecular Institute of Virology; Thomas German (Southern Bean mosaic virus), Department of Entomology; Virginia Hindshaw (avian virus), and Mouse retrovirus from the late Prof. Howard Temin, UW; and Université de Laval, Canada, respectively. The phospho-bonding complexes were determined.
with phosphodiesterase/phospho-triesterase, and by gel filtration of molecular mass.

**Results:** The enzyme:

- was widely distributed in animal, plant tissues, and in microorganisms.
- was associated with poliovirus, influenza virus, brome mosaic virus, avian virus, southern bean mosaic virus and mouse retrovirus.
- 6-azauridine inhibits enzyme activity and the infectivity of influenza virus on HeLa cells.

**Conclusion:** An evolutionary significant enzyme.

- We speculate the enzyme is associated with the following viral families: Flaviridae, Herpesviridae, Coronaviridae, Picornaviridae, Papillomaviridae and Nipahviridae to name a few.
- 6-azauridine inhibits on soluble form and virus bound enzymes (Fig.3).
- This investigation has been carried out on/off over two decades in Department of Genetics, UW-Madison, US.
- This presentation is dedicated to remember the late professor Oliver E. Nelson, member of National Academy of Science.
- We are anxiously looking forward to collaborate with any laboratory, institution, organization and industry in worldwide to demonstrate quickly and precisely the existence of this enzyme on surface of virions, i.e; mump, smallpox, yellow fever, rubies, rubella, particularly HIV and H1N1 viruses and many others. Since we believe undoubtedly that the results will contribute to understanding the prevention, treatment and infectivity of viruses.

![](image)

**6-Azauridine inhibits soluble enzyme activity**

6-Azauridine inhibits soluble enzyme activity

**Methods:** In the study are included 47 children from 1-4 years hospitalized in Pediatrics Infectious Diseases Ward during 2003-2008. From the childrens cards we studied important data as: distribution according to age group, gender, residence, season and important clinical manifestation such as fever, fatigue, pharyngitis, generalized lymphadenopathy and splenomegaly. Confirmation of the diagnosis is done by specific serological tests (antibody anti-EBV).

**Results:** According to age group 1-4 yr 30 cases (64%), 4-8 yr 11 cases (23%), 8-14 yr 6 cases (13%); gender male 35 cases (74%), female 12 cases (26%); residence city 36 cases (76%), village 11 cases (24%); season spring 12 cases (25%), summer cases (13%), autumn 11 cases (23%), winter 18 cases (39%). Clinical manifestations: fever 47 cases (100%), Pharyngitis (hypomorphic exudative) 47 cases (100%), lymphadenopathy 37 cases (73%), cervicaloteral predominantly 25 cases (68%), splenomegaly 37 cases (79%), hepatomegaly 7 cases (15%). In 86% of cases was found leucocitosis (10000-26000 cell/mm3), atypical lymphocytosis in peripheral blood (>10%), in 37 cases (79%) and elevated SGPT. Specific serological tests for anti body anti-EBV (anti-VCA-IgG and anti-VCA-IgM) were positive in all cases.

12 cases (25%) resulted with pulmonary infections, 5 cases (10%) with urinary tract infections and 3 cases (6%) with biliary tract infection.

**Conclusion:** Infectious mononucleosis is a clinical syndrome caused by Epstein-Bar virus which is not rare and must be considered in pediatric population. This syndrome expressed clinically by the thriad; pharyngitis, lymphadenopathy and splenomegaly must make us suspect the diagnosis of infectious mononucleosis which is confirmed by specific serological tests. Therapy with corticosteroids for short periods (<2 weeks) is indicated only in complications as airway obstruction, massive splenomegaly, myocardiitis, hemolytic anemia, seizure, meningitis. Therapy with acyclovir decreases viral replication and oropharyngeal shedding but does not reduce the severity or duration of symptoms.

**84.010**

Symptomatic, long-term Parvovirus B19 infection in otherwise healthy adults

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**Background:** Parvoviridae are part of air-, parenteral- and perinatal-transmitted ubiquitous viruses, whose associated signs and symptoms strongly depend on patient’s age and immune defence.

**Methods:** All cases of symptomatic Parvovirus B19 infection in otherwise healthy adults which came to our attention since spring 2006 were prospectively investigated and followed-up.

**Results:** In a 21-month period, 11 patients (7 females and 4 males), with a mean age of 36.9 (range 27-46) years with a symptomatic Parvovirus B19 infection were recorded and followed-up. Intrafamiliar exposure and occupational (health care) exposure were identified in two cases each.

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**84.009**

Infectious mononucleosis in Albanian children

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**Background:** To study some of the epidemiological data, clinical manifestations, diagnosis and treatment of the children hospitalized in the pediatrics infectious diseases ward.