

Rhinonyssidae is known for respiratory acariasis and *Sternostoma tracheacolum* or air sac mite is the only member of this family that infects lower respiratory tract of songbirds and completes its life cycle in 14-21 days, there. A canary flock with multi-aged groups of birds was suffering from respiratory distress and presented to veterinary diagnostic laboratory, Chonbuk National University. Clinical examination of serial cases from September 2004 to January 2005 showed emaciation, conjunctivitis, wheezing, coughing, and rattling sounds. Sequel asphyxiation and weight loss causes progressive mortality of birds. Necropsy showed marked airsacculitis, pneumonia, and some petechial hemorrhages in the trachea. Mites were seen as small dark brown spots in various sites of the respiratory tract including air sacs, lungs, trachea, and nares. In the latter cases, secondary fungal infection was also noticed in infested birds. Histopathologically, yellowish brown mite particles were seen in the parabronchi while exudative infiltration and congestion in and around the mite particles was also evident. Alveolar parenchyma included an increase infiltration of lymphocytes followed by macrophages, heterophills, and plasma cells. Mite had four pairs of legs; two dorsal and three ventral plates were seen on light and electron microscopy and mite was identified as *Sternostoma tracheacolum*.

Corresponding author : Chae-Woong Lim  
(063-270-3788, E-mail : lcw@chonbuk.ac.kr)

## **P#29**

### **Antiangiogenic Effect of Onion (*Allium cepa*) on Chicken Chorioallantoic Membrane**

Muhammad Zeeshan and Chae Woong Lim  
*Biosafety Research Institute, Department of Pathology, College of Veterinary Medicine, Chonbuk National University, Jeonju, Republic of Korea*

Angiogenesis is an important step during embryonic development, wound healing and cycling of female reproductive system and is equally important for metastasis and progression of tumors. Recently, *Allium* family gets special importance in case control studies against cancer. Like garlic, onion (*Allium cepa*) contains many chemical compounds including phytochemicals, flavonoids, and pigments. We used a whole extract of onion to mirror its chemical composition as antiangiogenic potential. Different doses of onion extract were applied on chicken chorioallantoic membrane (CAM), which is the most widely used model for angiogenic and antiangiogenic studies. An interim change in angiogenic response was noticed 24 hours after application. Routinely fixed CAMs showed dose dependent reduction of capillary plexus formation with maximum at high dose (30l) and minimum at low dose (10 l). To illustrate and further expand our study works we will use a modern 3D image probing system, which will identify any minute change in diameter and length of primary, secondary, and tertiary blood vessels. Angiogenic response at capillary level will be

quantified by 3D modalities including surface roughness, angular spectrum and Abbott curve that will measure minute angiogenic response of CAM, spread of blood vessels over CAM surface, and height versus surface area of blood vessels, respectively.

Corresponding author : Chae-Woong Lim  
(063-270-3788, E-mail : lcw@chonbuk.ac.kr)

### **P#30**

#### **Detection of Gastric *Helicobacter* Organism in Feral Raccoons (*Nyctereutes Procyonoides*)**

Hee-Jin Park, Dace Berzina and Chae-Woong Lim

*Biosafety Research Institute, Department of Pathology, College of Veterinary Medicine, Chonbuk National University, Jeonju, Republic of Korea*

Several *Helicobacter* species have been isolated from the gastrointestinal tracts of various domestic and wild animals. This study carried out to evaluate the prevalence of *Helicobacter* in feral raccoons. Samples for urease test, brush cytology, histologic examination, and PCR technique were collected from the oesophagus, fundus, corpus, antrum, and duodenum of 7 raccoon dogs (19 sites from each animal). Positive urease test was observed in 69.2% samples. *Helicobacter-like* microorganism were demonstrated in 95.5% of raccoon dogs by brush cytology and 81.2% samples by histological examination. Brush cytology and SEM of raccoon dog

stomach showed tightly spiraled organism. All of stomach samples from raccoon dogs were positive by PCR assay. The results of mapping in raccoon stomach showed that positive rate in the fundus (100%) was more higher than that in the body and the antrum. PCR assay was the most sensitive detection method, but brush cytology was very rapid, simple and more sensitive method for detection *Helicobacter* organisms.

Corresponding author : Chae-Woong Lim  
(063-270-3788, E-mail : lcw@chonbuk.ac.kr)

### **P#31**

#### **Impact of Sidestream Whole Smoke Solutions from Commercial Cigarettes on the Outcome of Wound Repair and Related Angiogenesis**

Sohail Ejaz, Irina Chekarova and Chae Woong Lim\*

*Biosafety Research Institute, Department of Pathology, College of Veterinary Medicine, Chonbuk National University, Jeonju, Republic of Korea*

Angiogenesis occurs as a highly regulated process, which is rapidly stimulated after injury. Wound angiogenesis is essential to support the regenerating tissue with oxygen and nutrition and any setback in angiogenesis may result in retarded wound repair. Cigarette smoking causes numerous adverse effects, some of which are associated with poor healing. The current experiment was carried