

of EB treatment was observed. All together, our results suggest that sustained increase of estrogen levels by EB implantation to skin was impairs spermatogenesis with an increase in germ cell apoptosis that appears to be mediated through modulation of Fas and Fas-L system, in which ER may not play a significant role.

Key words : β -Estradiol 3-benzoate, Testis, Apoptosis, Fas, Fas ligand, Estrogen receptor α

P#27

Involvement of the Fas and Fas Ligand in Testicular Germ Cell Apoptosis by Zearalenone in Rat

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Zearalenone (ZEA), a nonsteroidal estrogenic mycotoxin, is known to cause toxicity in the testis. In the present study, we examined the effects of ZEA on spermatogenesis and possible mechanisms involved in germ cell injuries by ZEA in rat. Ten-Week-old Sprague-Dawley rats were treated with 5mg/kg of ZEA i.p and euthanized 3, 6, 12, 24 or 48hr after

treatment. Histopathologically, selective damages of the spermatogonia and spermatocytes were observed. They were TUNEL-positive and found primarily in spermatogenic stages I-VI tubules in 6 hr after treatment and increased gradually until 12 hr, and then gradually decreased. Western blot analysis revealed an increase in Fas and Fas ligand (Fas-L) protein levels in the testis of ZEA-treated rats. The estrogen receptor (ER α) expression levels were not changed. These results suggest that: 1) the effect of ZEA on spermatogenesis is related to activation of apoptosis in specific germ cells; 2) germ cells in early spermatogenic stages (I-IV) are more sensitive to ZEA; 3) the induction of germ cell apoptosis by ZEA is mediated through modulation of Fas and Fas-L system; and 4) ER may not play a significant role in the impairment of spermatogenesis by ZEA.

Key words : Zearalenone, Testis, Apoptosis, Fas, Fas ligand, Estrogen receptor α

P#28

Pulmonary Acariasis Caused by Sternostoma Tracheacolum in Caged Canary

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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*.

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P#29

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

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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