

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.

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P#30

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

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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.

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P#31

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

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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

out to elucidate the possible detrimental effects of sidestream whole smoke solutions (SSWSS) on wound healing and related angiogenesis, using a well-defined chicken dorsum excision wound assay. Gross, histopathologic, SEM and computer based 3D image-probing modalities were utilized to quantify different detrimental effects of SSWSS on the fundamental processes of wound healing; including wound closure, re-epithelialization, dermal matrix regeneration and angiogenesis. A total of 160 chicks, aged 1 week, divided in eight groups were topically exposed for 8 days to SSWSS with different nicotine concentrations; group A (0.2 mg), group B (0.3 mg), group C (0.5 mg), group D (0.6 mg), group E (0.7 mg), and group F (1mg). At day 6 and day 8 post-wounding, very highly significant reduction ($P < 0.001$) in wound closure was observed among all SSWSS treated groups. Histological and SEM evaluation of SSWSS treated wounds unveiled delayed re-epithelialization, deteriorated dermal matrix, and retarded neovascularization. Moreover, image-probing exploration of SSWSS treated wounds also divulge a very highly significant decrease ($P < 0.001$) in the values of angular spectrum, S_a , S_y and S_{ci} , at day 6 post-wounding. Our study suggests that the cumulative effect of the different components of SSWSS has a negative impact on wound healing and related angiogenesis. Furthermore, our study demonstrates the effects that can contribute to abnormal healing and may explain why people who are consistently exposed to SSS suffer from slow healing and excessive scarring of wounds, much like the smokers themselves.

Key words : SSWSS, chicken, wound, angiogenesis

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Toxicological Effects of Mainstream Whole Smoke Solutions on Embryonic Movements of the Developing Embryo

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Cigarette smoking is unrivaled among developmental toxicants in terms of total adverse impact on the human population. Maternal tobacco use during pregnancy adversely affects prenatal and postnatal growth and increases the risk of behavioral and developmental defects in children and adolescents. In the current study, the effects of different preparations of nicotine and mainstream whole smoke solutions (MSWSS) on embryonic movements during neonatal development were examined in vivo, using the chicken embryo model, recorded in real-time by a video camera. It was observed that low doses of nicotine induced hyperactivity and higher doses induced hypoactivity. Accordingly, a significant ($p < 0.01$) decrease in movements was observed by application of 10 microg of nicotine and