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Sample Tumor and Histiological cases from Brief Adult Oral administrations of Dimethylbenz(A) Anthracene (DMBA) or Prenatal Exposures to Weak Intensity Patterned Magnetic Fields

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Female rats that had received only four oral administrations of Dimethylbenz(a)anthracene (DMBA) were exposed for one year every night for about 6 min every hour between midnight and 08 hr to various intensities of 7 Hz, amplitude-modulated magnetic fields generated through Helmholtz coils. The rats exposed to intensities between 400 and 500 nT did not develop any overt tumors even though they received DMBA. On the other hand rats exposed to the intensities between 30 and 60 nT developed a variety of different, qualitatively unusual tumors that were located within pancreatic, salivatory, and nasal tissues. Their histological features are presented. These results should be considered preliminary but suggest that protracted exposures to particularly patterned and intensity magnetic fields during the nocturnal cycle may suppress the chemical reactions that contribute to the nuclear changes in the cell or the intercellular cohesive networks that ultimately trigger these massive proliferations of tissue (**Figures 1-10).**

Figure 1 Salivatory tumor after about one year subsequent to brief oral DMBA consumption.

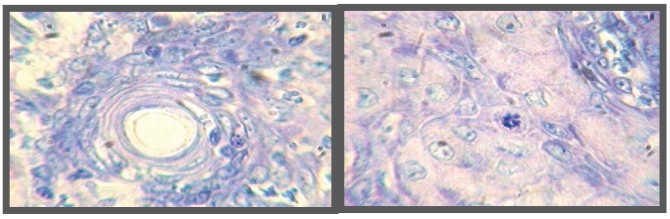

Figure 2 Histopathology of salivatory tumor from rat above (1000x, oil) Toluidine Blue O.

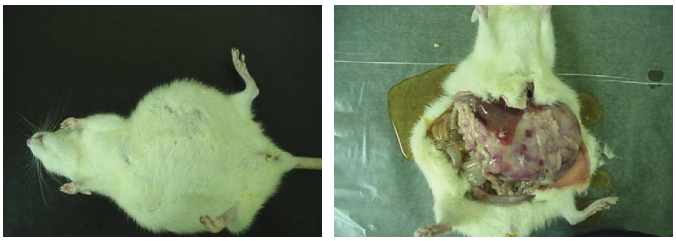

Figure 3 Pancreatic tumor about one year subsequent to DMBA consumption.

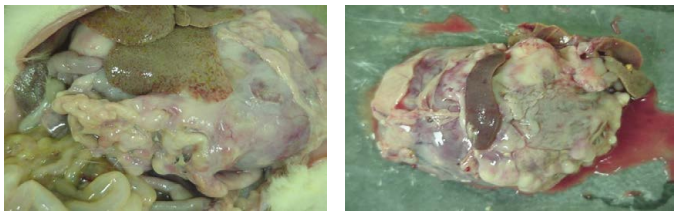

Figure 4 Closer inspection of tumor shown in previous figure. The proliferation of anomalous tissue can be seen as the light yellowish-grey tissue wrapped around the abdominal mass.

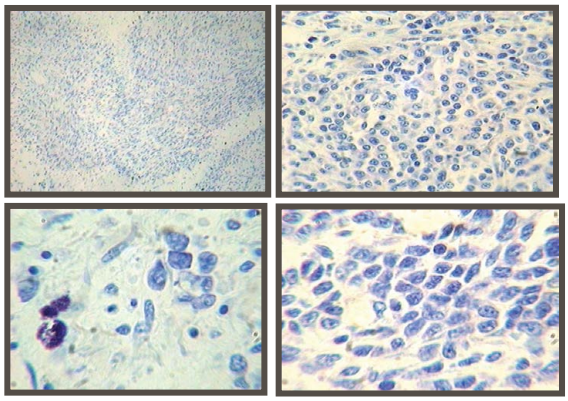

Figure 5 Histopathology at various levels of magnification (oil=1000 x) within pancreatic malignant tissue shown in pervious figure. Toluidine Blue O.

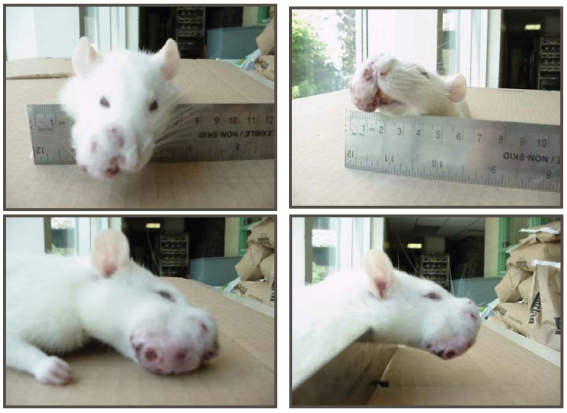

Figure 6 Gross display of nasal tumour that developed over one year in a rat that received brief oral DBMA treatment.

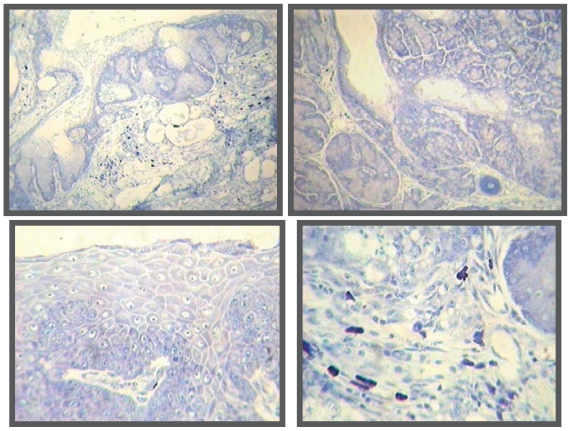

Figure 7 Histopathology of nasal tumor depicted in animal above. Bottom left panel shows hyaline cartilage; upper left and lower right (higher magnification) mast cells (deep purple) infiltrating the connective tissue associated with the proliferation and external expansion are shown.

Figure 8 Example of the multisite (breast) tumor emergence in an older female rat that had been exposed during her entire prenatal development to a complex-sequenced magnetic field (30 to 50 nT) designed to affect stacking energies of base nucleotides

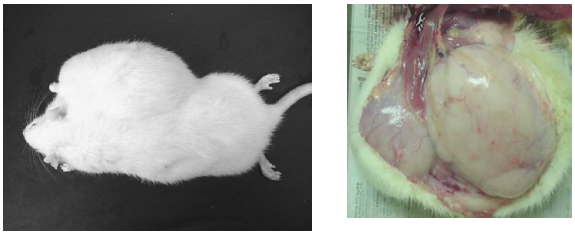

Figure 9 Left: mammary tumour. Right: Gross display of tumor (fibroadenoma).

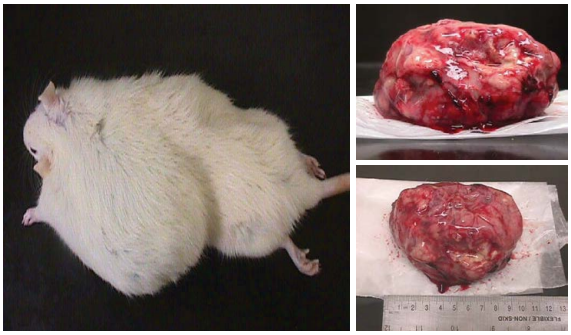

Figure 10 Left: Mammary tumor. Right: Adenocarcinoma, gross display.