Anoxia and brightness discrimination. *J Gen Physiol* 29: 335-351.
34. McFarland, R. A., and Halperin, M. H. 1940. The relation between foveal visual acuity and illumination under reduced oxygen tension. *J Gen Physiol* 23: 613-30.
35. McFarland, R. A. 1973. Low level exposure to carbon monoxide and driving performance. *Arch Environ Health* 27: 355-59.
36. Denison, D. M.; Ledwith, F.; and Poulton, E. C. 1966. Complex reaction times at simulated cabin altitudes of 5,000 ft and 8,000 ft. *Aerosp Med* 37: 1010-13.
37. Ledwith, F. 1970. The effects of hypoxia on choice reaction time and movement time. *Ergonomics* 13: 465-82.
38. Kobrick, J. L., and Dusek, E. R. 1970. Effects of hypoxia on voluntary response time to peripherally located visual stimuli. *J Appl Physiol* 29: 444-48.
39. Stewart, R. D.; Peterson, J. E.; Fisher, T. N.; Hosko, M. J.; Baretta, E. D.; Dodd, H. C.; and Herrmann, A. A. 1973. Experimental human exposure to high concentrations of carbon monoxide. *Arch Environ Health* 26:1-7.
40. Stewart, R. D. 1974. The effects of low concentrations of carbon monoxide in man. *Scand J Resp Dis Suppl* 91: 56-62.
41. Wright, G.; Randell, P.; and Shephard, R. J. 1973. Carbon monoxide and driving skills. *Arch Environ Health* 27: 349-54.
42. Lurai, S. M. 1977. Visual masking and carbon monoxide toxicity. *Percept Mot Skills* 44: 47-53.
43. Vogel, J. A.; Gleser, M. A.; Wheeler, R. C.; and Whitten, B. K. 1972. Carbon monoxide and physical work capacity. *Arch Environ Health* 24: 198-203.
44. Peterson, J. E., and Stewart, R. D. 1970. Absorption and elimination of carbon monoxide by inactive young men. *Arch Environ Health* 21: 165-71.
45. Peterson, J. E., and Stewart, R. D. 1975. Predicting the carboxyhemoglobin levels resulting from carbon monoxide exposures. *J Appl Physiol* 39: 633-38.

Changes in the Blood Count of Growing Rats Irradiated with a Microwave Pulse Field

JANA PAZDEROVÁ-VEJLUPKOVÁ, M.D.
MARCEL JOSÍFKO
Faculty of General Medicine
Charles University
Prague, Czechoslovakia

ABSTRACT

A group of 20 male rats of mean initial body weight of 65.53 g were irradiated for 7 wk (5 days per wk, 4 hr per day) with an electromagnetic pulse field of the following parameters: working frequency 2,736.5 MHz; repeated frequency 395 Hz; pulse width 2.6 μsec; vertical polarization; mean power density 24.4 mW/cm^2; accuracy of measurement ± 6%.

The rectal temperature of experimental animals increased during irradiation by a maximum of 0.5°C. Blood was taken before irradiation, at the end of the 1st, 3rd, 5th, and 7th wk of irradiation, and at the end of the 1st, 2nd, 6th, and 10th wk after irradiation was completed.

The parameters under study included the hematocrit value; number of leukocyte differential count in both absolute and relative proportions; activity of alkaline phosphatase in neutrophil leukocytes; and body weight increase. The results were compared with parallel data obtained from a control group of 20 animals and evaluated by Student's *t* test at a significance level of 1%.

In the second half of the irradiation period the experimental animals exhibited significantly lower mean hematocrit values, lower numbers of leukocytes, and lower absolute numbers of lymphocytes. These changes disappeared gradually within 10 wk after completed irradiation. Activity of alkaline phosphatase in neutrophil leukocytes was significantly increased in the 1st wk of irradiation and dropped transiently after the irradiation. In the post-irradiation interval experimental animals displayed significant decline in rate of body weight increase.

The level of the other examined parameters did not differ from the controls.

DURING THE LAST THIRTY YEARS there has been a marked development and increase in the use of military, industrial, and consumer equipment and devices that emit a large variety of nonionizing electromagnetic energies.

Very high frequency (30-300 MHz) is used in FM broadcasting, television, air traffic control, and navigation; ultra high frequency (0.3-3 GHz) is used in television, microwave ovens, citizens band broadcasting, telemetry, tropo scatter, and meteorological radars. Super high frequency (3-30 GHz) is used in satellite communication and airborne weather radars. Recommended maximum permissible intensities for electromagnetic radiation are a bit different in Western European countries (including USA and Canada) and Eastern European countries.[1] Future research will bring more exact data that will allow more precise determination of maximum permissible intensities for electromagnetic radiation.

Several years ago we had the opportunity to examine

Vol. ?, Issue ?
p. 44—50 (Jan/Feb-1979)

Anoxia and brightness discrimination. *J Gen Physiol* 29: 335-351.
34. McFarland, R. A., and Halperin, M. H. 1940. The relation between foveal visual acuity and illumination under reduced oxygen tension. *J Gen Physiol* 23: 613-30.
35. McFarland, R. A. 1973. Low level exposure to carbon monoxide and driving performance. *Arch Environ Health* 27: 355-59.
36. Denison, D. M.; Ledwith, F.; and Poulton, E. C. 1966. Complex reaction times at simulated cabin altitudes of 5,000 ft and 8,000 ft. *Aerosp Med* 37: 1010-13.
37. Ledwith, F. 1970. The effects of hypoxia on choice reaction time and movement time. *Ergonomics* 13: 465-82.
38. Kobrick, J. L., and Dusek, E. R. 1970. Effects of hypoxia on voluntary response time to peripherally located visual stimuli. *J Appl Physiol* 29: 444-48.
39. Stewart, R. D.; Peterson, J. E.; Fisher, T. N.; Hosko, M. J.; Baretta, E. D.; Dodd, H. C.; and Herrmann, A. A. 1973. Experimental human exposure to high concentrations of carbon monoxide. *Arch Environ Health* 26:1-7.
40. Stewart, R. D. 1974. The effects of low concentrations of carbon monoxide in man. *Scand J Resp Dis Suppl* 91: 56-62.
41. Wright, G.; Randell, P.; and Shephard, R. J. 1973. Carbon monoxide and driving skills. *Arch Environ Health* 27: 349-54.
42. Lurai, S. M. 1977. Visual masking and carbon monoxide toxicity. *Percept Mot Skills* 44: 47-53.
43. Vogel, J. A.; Gleser, M. A.; Wheeler, R. C.; and Whitten, B. K. 1972. Carbon monoxide and physical work capacity. *Arch Environ Health* 24: 198-203.
44. Peterson, J. E., and Stewart, R. D. 1970. Absorption and elimination of carbon monoxide by inactive young men. *Arch Environ Health* 21: 165-71.
45. Peterson, J. E., and Stewart, R. D. 1975. Predicting the carboxyhemoglobin levels resulting from carbon monoxide exposures. *J Appl Physiol* 39: 633-38.

Changes in the Blood Count of Growing Rats Irradiated with a Microwave Pulse Field

JANA PAZDEROVÁ-VEJLUPKOVÁ, M.D.
MARCEL JOSÍFKO
Faculty of General Medicine
Charles University
Prague, Czechoslovakia

ABSTRACT

A group of 20 male rats of mean initial body weight of 65.53 g were irradiated for 7 wk (5 days per wk, 4 hr per day) with an electromagnetic pulse field of the following parameters: working frequency 2,736.5 MHz; repeated frequency 395 Hz; pulse width 2.6 μsec; vertical polarization; mean power density 24.4 mW/cm^2; accuracy of measurement ± 6%.

The rectal temperature of experimental animals increased during irradiation by a maximum of 0.5°C. Blood was taken before irradiation, at the end of the 1st, 3rd, 5th, and 7th wk of irradiation, and at the end of the 1st, 2nd, 6th, and 10th wk after irradiation was completed.

The parameters under study included the hematocrit value; number of leukocyte differential count in both absolute and relative proportions; activity of alkaline phosphatase in neutrophil leukocytes; and body weight increase. The results were compared with parallel data obtained from a control group of 20 animals and evaluated by Student's *t* test at a significance level of 1%.

In the second half of the irradiation period the experimental animals exhibited significantly lower mean hematocrit values, lower numbers of leukocytes, and lower absolute numbers of lymphocytes. These changes disappeared gradually within 10 wk after completed irradiation. Activity of alkaline phosphatase in neutrophil leukocytes was significantly increased in the 1st wk of irradiation and dropped transiently after the irradiation. In the post-irradiation interval experimental animals displayed significant decline in rate of body weight increase.

The level of the other examined parameters did not differ from the controls.

DURING THE LAST THIRTY YEARS there has been a marked development and increase in the use of military, industrial, and consumer equipment and devices that emit a large variety of nonionizing electromagnetic energies.

Very high frequency (30-300 MHz) is used in FM broadcasting, television, air traffic control, and navigation; ultra high frequency (0.3-3 GHz) is used in television, microwave ovens, citizens band broadcasting, telemetry, tropo scatter, and meteorological radars. Super high frequency (3-30 GHz) is used in satellite communication and airborne weather radars. Recommended maximum permissible intensities for electromagnetic radiation are a bit different in Western European countries (including USA and Canada) and Eastern European countries.[1] Future research will bring more exact data that will allow more precise determination of maximum permissible intensities for electromagnetic radiation.

Several years ago we had the opportunity to examine

Vol. ?, Issue ?
p. 44—50 (Jan/Feb-1979)