Phagocytosis index, activities of acid and alkaline protease, plasminogen, plasminogen activator and spontaneous fibrinolytic activity of the leucocytes in control and cytostatics treated guinea-pigs

Number of animals	Treatment	Phagocytosis index	Acid protease	Alkaline protease	Plasminogen	Plasminogen activator	Spontaneous fibrinolytic activity
9	Control	11.8 (4.3–13.4)	66.0 (35–129)	90.0 (59–102)	82.0 (35–124)	578.0 (397–877)	78.0 (30–96)
3	Mitomycin C	8.1 (5.3–10.4)	20.0 (5–28)	10.5 (4–16.5)	23.0 (16–28)	194.0 (82–273)	27.0 (6–46)
4	Nitrogranulogen	8.0 (6.5–9.8)	14.0 (3–27)	8.0 (2–16)	20.0 (0–30)	135.0 (93–222)	3.0 (0–12)
3	Endoxan	7.2 (5.5–8.8)	16.0 (10–21)	37.3 (22–50)	7.0 (5–9)	333.0 (325–343)	44.0 (16–69)
3	Trenimon	6.9 (5.8–8.7)	23.0 (19–26)	31.0 (23–35)	19.0 (8–35)	144.0 (71–226)	21.0 (9–44)
3	5-Fluorouracil	6.4 (5.5–6.8)	48.6 (40–54)	18.6 (9–25)	21.0 (0–42)	110.0 (70–159)	10.0 (7.5–12)

No. in brackets denotes minimal and maximal values.

particularly localized in lysosomes but it is almost equally distributed in the whole leucocyte. Acid and alkaline proteases are supposed to be most significant enzymes for phagocytosis process. If it is true, we can suggest that there is an excess of these enzymes in normal cell and their decrease to about 9% of initial values (e.g. alkaline protease after nitrogranulogen) may be without any significant influence on the phagocytosis index. Cytostatic agents added in vitro to the leucocytes suspension inhibited also fibrinolytic and proteolytic activities. The rapid disappearance of plasminogen from cytostatic treated leucocytes suggests that these cells may be the site of biosynthesis of this proenzyme[5].

Résumé. Nous avons trouvé que les agents cytostatiques (endoxane, trenimone, 5-fluorouracile, mitomycine C, nitrogranulogène) causent une inhibition considérable de l'activité des enzymes protéolytiques et fibrinolytiques des leucocytes du cobaye, sans affecter de manière significative la phagocytose. Le plasminogène des leucocytes n'est pas indispensable à la phagocytose et d'autres enzymes protéolytiques s'y trouvent probablement en excès.

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Lack of Effect of Constant Magnetic Fields on *Drosophila* Egg Hatching Time

Reports have appeared in the literature describing effects of constant magnetic fields in various biological systems[1,2]. Possible effects are, however, often obscured by the large spread in the biological parameter investigated, and by the small numbers of individuals treated.

The hatching time of *Drosophila melanogaster* wild type eggs should provide a sensitive test of such effects. Firstly, because it involves many of the crucial steps in the development of living organisms, such as synthesis of nucleic acids, enzymes and other vital molecules, as well as the more obscure processes involved in cell division and differentiation. Secondly, because it is a biological parameter of unusually small spread. Thus, in our experiments, its value at 25 °C was about 20 h, and the time required for the transition from 20% to 80% eggs hatched about 0.5 h, thus being only about 3% of the mean. Being familiar with this material[3], it seemed a good system for detection of a possible effect of magnetic fields.

Eggs were collected in 10 min periods, and placed in a constant magnetic field for approximately 18 h, until scoring was started. Reasonably homogeneous fields of about 1600 Gauss and about 5000 Gauss were used. In 2 experiments, using in all about 800 embryos, no difference in hatching time could de demonstrated between eggs in the magnetic field and simultaneously collected control eggs in the same temperature controlled environment.

Zusammenfassung. Die Wirkung homogener magnetischer Felder von 1600 und 5000 Gauss auf die Schlüpfzeit von *Drosophila*-Embryonen (Normalschlüpfzeit: 20 ± 0,5 h) wurde untersucht. Es konnte keine Wirkung festgestellt werden.

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