Bexton Dickinson flow cytometer. Cell samples were also tested for their ability to aggregate human platelets by an Aggregometer (CRONOLOG ,CA-500).

Estimation of platelet aggregation ability of sarcoma cells. The metastatic potential of sarcoma cells was determined from their ability to aggregate platelets before and after their exposure to electromagnetic fields. A total of 120 tests were performed on blood samples taken from six healthy volunteer donors , free from drugs or alcohol for about ten days before tests. The tests of platelets reactions were performed in platelet rich plasma (PRP) of the donors, prepared according to the manual of the apparatus. The CRONOLOG kit was used to verify the normal functional responses of platelets via the three aggregation pathways. Platelet activation and aggregation tests were performed after suspension in human PRPs of 500,000 of EMF-exposed or control cells .

Student's t-test was used for statistical evaluation of the results and $p<0.05$ was considered statistically significant.

Results

Cell proliferation rate. 24 hours after the first and second session of exposure to the electromagnetic fields, the proliferation rate of the sarcoma cells was slightly decreased, in comparison to those of the control (unexposed) cells ($p<0.05$). The microscopic examination also showed that the highest percentage of sarcoma cells was under stress (round-shaped cells with abortive pseudopodia and formation of nuclear membrane blebs). The multiplication rate of EMF-exposed cells was dramatically decreased at a percentage higher than 95%, ($p< 0,00001$ compared to the control) after 48 hours of incubation and most of the exposed malignant cells were found either dead (mainly apoptotic) or extremely stressed (round shaped cells, formation of bleeds in the outer cell membrane, absence of pseudopodia) (fig.1).

Also, the survived after EMF exposure, sarcoma cells showed a great difficulty in proliferating according to time till confluence (6 days incubation) in comparison the control cells (3 days incubation until confluence) (fig.2 and 3).

Malignant cells exposed for four repeated tumor cells sessions to the described above electromagnetic fields showed only a 20 % decrease of number of cells compared to the control sarcoma cells.

Sarcoma cell distribution in the cell cycle phases. Flow cytometry revealed that after the 4th exposure to EMF sessions 33% of cancer cells found to be in G0/G1, 9%in S phase, 2% in mitosis and 45% were undergoing apoptosis while the control cells found to be 36% in G0/G1, 38% in S phase, 19% in mitosis and 2% undergoing apoptosis (table 1).

Estimation of tumor cell "metastatic potential" (platelet aggregation ability). The aggregational ability of the control as well as of the exposed to EMF cells was 78%, and was almost equal to the aggregational ability of ADP (82%). According to the above EMF-exposure did not seem to affect significantly the "metastatic potential" of sarcoma cells(fig.4).