

ANSWERING REVIEWERS

Dear Editor,

We have studied your comments and reviewers' ones carefully and have made correction which we hope meet with your approval.

The first language and style correction had been made by AJE. Editorial certificate (D13F-B08F-1609-C162-2DBB) attached at the end of the letter. The AJE corrections are marked in the text. After this correction we have made our inspection to ensure that the intended meanings had been maintained. If the intended meanings had not been maintained, we have made our corrections. These corrections are marked in the track changes mode in MS Word as "Cot Inohod".

Response to reviewer: 505755

Thank you very much for your positive referee's comments concerning our manuscript.

1. The language has now been corrected.

2. **"Abstract: RESALTS should be RESULTS. Proofread is needed".**

We have not understood what are needed to correct here. There is no precise indication. But we have carefully read the text again and corrected the first two sentences.

Ibid it was: "During incubation day in 50-mm cultural dishes BMSCs or the nonadherent cells were accumulated into the dish centers in the central heap. BMSCs were formed into the torus (central ring) with inner diameter about 10 mm when introducing the needles only in the center of the dishes".

It is now: During 24 h of incubation in 50-mm culture dishes, BMSCs or the nonadherent cells accumulated into a central heap in each dish. BMSCs formed a torus (central ring) with an inner diameter of approximately 10 mm only upon the introduction of the needle in the centre of the dish.

3. **"References: Please check reference citations carefully".**

All references were carefully checked once more.

4. **"Figures and Tables: Picture for figure 4 seems black, please correct the figure".**

Quality of Figure 4 has been improved.

Response to reviewer: 2446119

Thank you very much for your critical reading and constructive suggestions.

1. The language has now been corrected.

2. Thank you for your wishes to us for further statistical explorations. The studies will be carried out if we get the corresponding appropriations.

3. Participation of glycocalyx in motion of a whole cell in an electric field is obvious. So this required discussion. It is true that **"there was not any parameter to show the expression and the integrity of this charged molecule"**. Therefore we did not say anything about glycocalyx in the abstract. And we only hypothesized about glycocalyx role, but no more.

4. **"In Fig 8, I am not sure if b1 and b2 are in a wrong position and need an exchange".**

Figure 8 is faithful. This point is explained in the text. But now we added into the figure legend a sentence to explain b1 and b2: "GDG from the dish filled with PBS: the grounding electrode is in the center (b1, note the gap in the lower left quadrant due to the uneven distribution of the charge on the bottom of the dish),..."

Response to reviewer: 609434

Thank you for your critical reading and constructive suggestions.

1. The language has now been corrected.
2. **"The manuscript is too long, there are too much descriptions of experimental settings that the authors have tried but without a proper presentation in figures and any statistical significance cannot be considered of relevance to the scope of the paper".**
Descriptions of the settings are necessary because very few people are familiar with GDV. This study was mainly on phenomenon observation. All, with the exception of proliferation and seasonality is a phenomena. Therefore, we can not eliminate it all. In addition, other reviewers expressed positive opinions about these.
3. **"All considerations made without a proper presentation as significant data should be removed".**
See item 2.
4. **"Authors should number the figures in the order with which they discuss the results shown in them, i.e. figure 5 can't be the first figure that is addressed in the results section. Since figures from 1 to 4 simply describe the methodologies and experimental strategies used they could be collected in a single scheme".**
Thank you for this comment. The authors (three) and acknowledged the staff (three) have discussed your proposal. Only one of the six called for collecting into a single scheme. Thus, this collecting has not been fulfilled. In addition, other reviewers did not express opinion like yours.
5. **"The photographs in Figure 5 do not allow to see anything, authors should present images with a higher quality to allow readers to verify the results described in the text".**
In our study, the task required to minimize the magnification in the microscope to capture a larger field. The photos have not beautiful large cells. The cells have the form of dots, small circles and dashes. We have increased the brightness and contrast of the image.
6. **"Furthermore this figure lacks the proper controls, i.e. cells in the absence of the needle or in its presence but not subjected to MF".**
We really did controls. But the controls for these photographs by and large do not need. The purpose of photographing live cells was only to show that the cells are unevenly distributed across the dish. While we and others had thought that the cells are uniformly distributed. Photographing is very inaccurate (with or without a control). We can not cover the entire field at the same time. Therefore, it is certainly not to identify whether there is in fact the effect or no the effect (with or without a control). Precise studies made with stained cells. There, all relevant controls are present. In addition, other reviewers were satisfied with the figure. Therefore, the changes were not made.
7. **"The inferences on the influence of the season on cell behaviour and proliferation lack statistical evidences, thus they can't be discussed in the manuscript as if the phenomenon was of relevance. The authors should first demonstrate it unequivocally and then discuss it. I suggest to remove those inferences both from the results and from the discussion".**

Thank you for this comment. We did not say anything about the influence of the season on cell proliferation. Seasonality is the most statistically proved part. We had not wrote this well. We made changes to the text as follows: 1) Results/Photographing the dishes with fixed and stained cells/first paragraph: "Over the 2 years of experiments, approximately 160 dishes were stained" was added. 2) Ibid it was: "Statistical calculations were not carried out, there having always been any effect in spring, summer and autumn and not in winter". It is now: "There was always the strongest effect in spring, some effect in summer and autumn, and no effect in winter. Approximately 40 dishes were tested for each season. The 40 dishes for winter (from mid-November to mid-January) showed no effect. The 40 dishes for spring (from March to April) all showed the effect. Consequently, seasonality is present at $P < 0.05$ ". 3) Discussion/last paragraph: "We had not the task to study the effect of seasonality. Therefore, accurate statistical research in this direction has not performed. We can only say we did not get any positive result from mid-November to mid-January. While only exceptionally positive results were observed in March and April. These facts already enable to speak about the seasonality of phenomenon involved" has been removed. 4) "It is like that there are transition states from autumn to winter and from winter to spring, but examining those states was beyond the scope of this study." was moved from Results/Photographing the dishes with fixed and stained cells/first paragraph to Discussion/last paragraph.

8. **"The discussion is too long and many sentences lack the proper references to the literature".**
We have not understood what are needed to correct here. There is no precise indication. But we have carefully read the text again and added the reference number 24.
9. **"it is difficult to understand the impact of the findings of the manuscript on its field and the relations to the current literature".**
Other reviewers were satisfied about these points.

We should like to thank the referees for their helpful comments and hope that we have now produced a more balance and better account of our work. We trust that the revised manuscript is acceptable for publication.

Yours sincerely,
Artem N. Emelyanov, Ph.D., Senior Researcher