

IS THERE ANY CORRELATION BETWEEN THE NUMBER CHANGE IN CIRCULATING TUMOR CELLS AND THE CLINICAL EVALUATION IN CANCER PATIENTS?

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Introduction

The number of circulating tumor cells (CTCs) has interesting influence on researchers around the world. Several studies are trying to analyze their correlation with either the stage or their use as markers for the prediction of disease development.

Aim

The present study used samples from 43 patients of different stages, age and sex type with breast, prostate, lung and colon cancer. Cancer cells were isolated and their concentration was enumerated with flow cytometry. For the quantification, specific antigens for every cancer type were used. The arising data for each patient were kept in file until the next check up and the information of the clinical evaluation of the patient from their physician. All of the patients gave their consent for the data use in research experiments. The final aim of the present work was the correlation or not of the number of circulating tumor cells and the clinical evaluation of patients based on stage.

Results

The experiments were performed according to RECIST criteria. The results are promising and showed that: i) in patients with partial response to chemotherapy there is a great change in circulating tumor cell number, ii) in patients with stable disease this change is smaller or there is an increase in CTC number and iii) patients with progress of disease have almost no difference in CTC number.

Conclusions

The present study made an effort to correlate the stage of disease, the circulating tumor cell number and the clinical evaluation in patients with several cancer types. The results for group i) show that the rapid change in CTC number after chemotherapy can be used as resistance/sensitivity marker in the specific chemotherapy combination used, ii) show that patients with local relapse have CTC change near zero and iii) patients with stable CTC number after chemotherapy have progress of disease. The study will be continued to a greater number of patients and to numerous other cancer types.

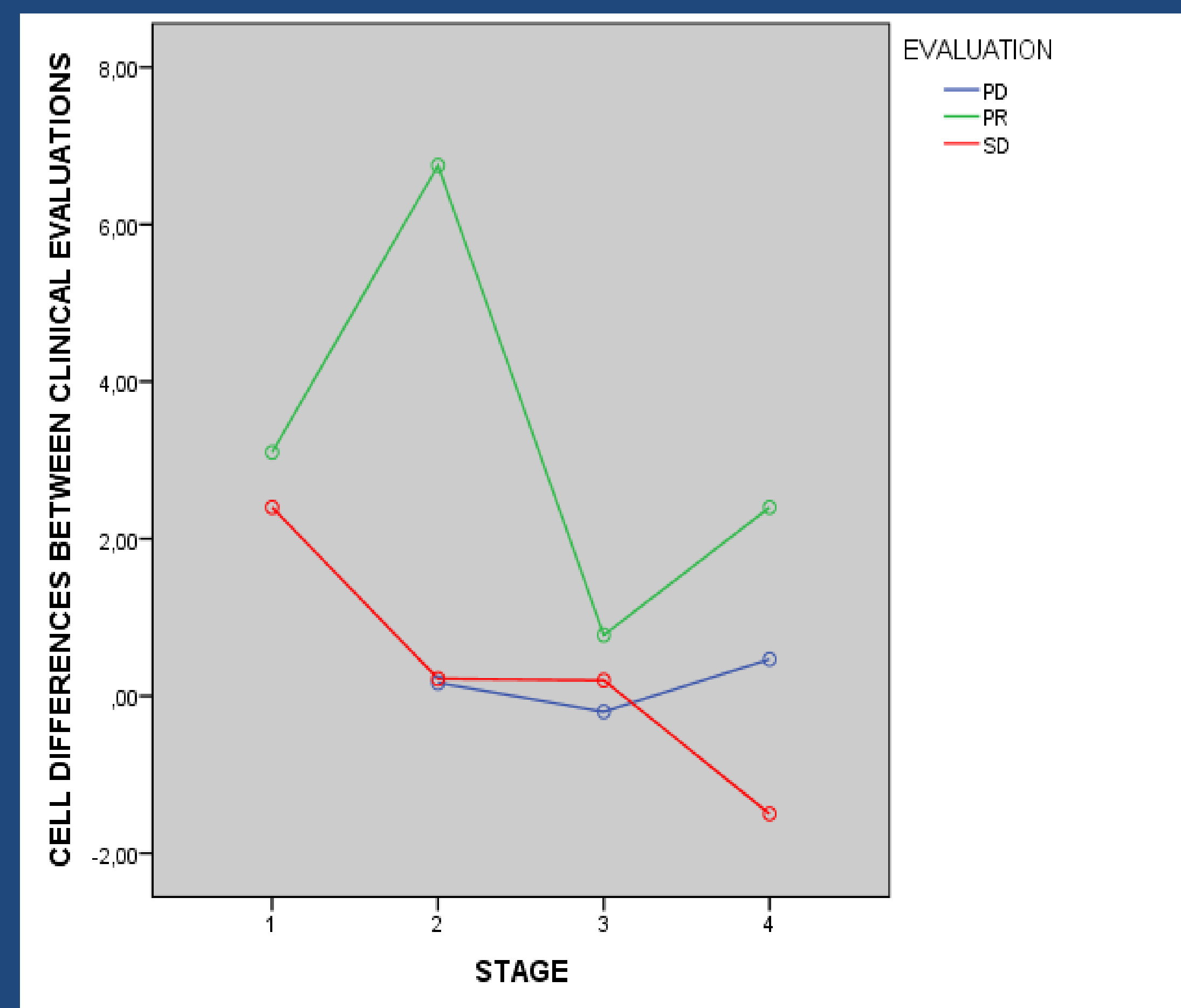


Figure 1. Statistical illustration of cell number difference between clinical evaluations of patients per stage. Differences above zero are correlated with clinical improvement (PD:progress of disease, PR: partial response, SD:stable disease).

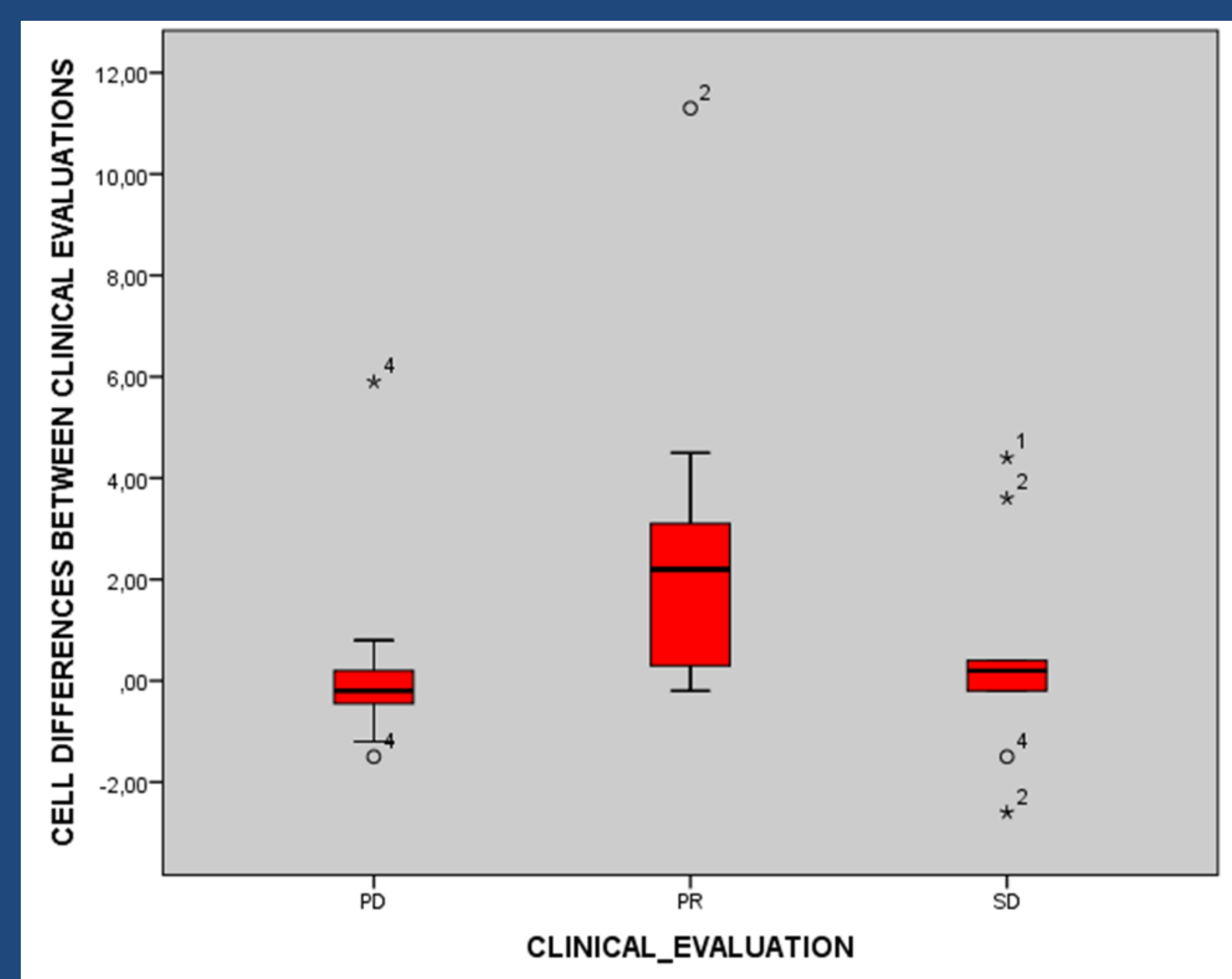


Figure 2. Statistical illustration of cell number difference between clinical evaluations of patients per evaluation. The figure represents data out of the mean area that are mentioned per stage (PD: progress of disease, PR: partial response, SD: stable disease).

References

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