Author's response to reviews

Title: Smoking decreases the level of circulating CD34+ progenitor cells in young healthy women - a pilot study

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Dear Madams and Sirs,

we would be grateful if our manuscript “Smoking decreases the level of circulating CD34+ progenitor cells in young healthy women - a pilot study” could be considered for publication in *BMC women’s health*.

In this pilot study we have investigated the effects of smoking on the circulating progenitor cells in healthy premenopausal women who are at a lower risk of atherosclerosis as compared to man. We have chosen premenopausal women that are protected by estrogens and found that smoking decreases the level of circulating CD34+ progenitor cells in this group. The differences in CD34+ cells between smoking and nonsmoking women were maintained in all examined phases of the menstrual cycle, independently of the estrogen levels. Finally, independently from the smoking status of the study population, we found a positive correlation between levels of circulating progenitor cells and endothelial function in young healthy women.

We are convinced that the study is of broad interest, since it addresses important questions related to smoking and endothelial function. The observation reinforces the knowledge that smoking reduces circulating progenitor cells in men. Moreover, this paper shows that the abuse of smoking overcomes the protective estrogen action on endothelial homeostasis. We suggest that assessment of progenitor cell levels – in a manner similar to or even more effectively than endothelial function – may provide an additional tool for cardiovascular risk stratification in young healthy women.

The manuscript, or part of it, has neither been published nor is currently under consideration for publication by any other journal.

We declare that all co-authors have read the manuscript and approved its submission to *BMC women’s health*.

Thank you very much for your interest.

Sincerely,

Antje Ludwig,
Nicoline Jochmann,
Verena Stangl