Reviewer’s report

Title: Synergistic effect of anti-angiogenic and anti-erbbs treatment in orthotopic models of human testicular germ cell tumors

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Reviewer: Michael Höpfner

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Juliachs et al, BMC Cancer-2013:

“Synergistic effect of anti-angiogenic and anti-ErbBS treatment in orthotopic models of human testicular germ cell tumors”

The study of Juliachs et al. evaluated the antitumoral and antiangiogenic effects of two small molecule inhibitors in two different models of human testicular germ cell tumors that were orthotopically grown in nude mice.

Applied as single drugs the two inhibitors pazopanib and lapatinib exhibited antitumoral and antiangiogenic activity. Based on additive effects of a combination of both agents in one of the two mouse models the authors concluded that the pazopanib and its combination with lapatinib might be an interesting new approach for the treatment of cisplatin-sensitive and especially cisplatin-insensitive germ cell tumors.

Despite of some minor grammatical and typing errors the text is well written and the authors' hypothesis is clear. The set of experiments chosen to explore the effects of these inhibitors is logical and well-chosen. Thus, the paper will be interest for the readers of BMC Cancer.

However, some criticisms should be taken into account, before publication can be recommended:

1.) The title of the paper doesn´t fit to the actually presented data, as the combination of antiangiogenic and anti-ErbBS treatment was only investigated in CDDP-sensitive TGT38 mice. Moreover, it appears that the main goal of the paper was to demonstrate pazopanib as a promising novel agent for the treatment of CDDP-refractory GCTs. This is reflected in the conclusion and should thus be also reflected in the title.

2.) Fig. 2 shows a boxplot diagram on the effects of pazopanib in CDDP-refractory TGT44 mice. The CDDP-treatment shows rather high deviation, overlapping with the effects shown for pazopanib. As only n=3 (control) or n=4 (CDDP, pazopanib) individuals were treated in each group, the data are rather weak. A higher number of individuals tested in each group (e.g. like in the TGT38 tests> n=12 to13) is required to clearly demonstrate CDDP-insensitivity and pazopanib’s effectiveness.
3.) CD31 staining depicted in figure 3A is hardly legible. Even in a high resolution print out only black boxes with light hazes of green can be seen. The figure should be overworked or removed as the respective data are also depicted as a diagram in Fig. 3B.

4.) Figure 5A: Bar: 4000μM ??!!

5.) Reference 31 is incomplete

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests