

Editorial Policy Checklist

This form is used to ensure compliance with Nature Portfolio editorial policies related to research ethics and reproducibility. For further information, please see our [editorial policies](#) site. All relevant questions on the form must be answered.

Competing interests

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Competing interests declaration

In the interest of transparency and to help readers form their own judgements of potential bias, Nature Portfolio journals require authors to declare any competing financial and/or non-financial interest in relation to the work described in the submitted manuscript.

- ☐ We declare that none of the authors have competing financial or non-financial interests as defined by Nature Portfolio.
- ☒ We declare that one or more of the authors have a competing interest as defined by Nature Portfolio.

Dr. Butt has received investigator initiated grant funding (to the institution, Veterans Health Foundation of Pittsburgh) which is unrelated to the work presented here. Other authors declare no financial conflict of interest regarding the content of this article.

Authorship

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Prior to submission all listed authors must agree to all manuscript contents, the author list and its order and the author contribution statements. Any changes to the author list after submission must be approved by all authors.

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All manuscripts must include a [data availability statement](#). This statement should provide the following information, where applicable:

- Accession codes, unique identifiers, or web links for publicly available datasets
- A description of any restrictions on data availability
- For clinical datasets or third party data, please ensure that the statement adheres to our [policy](#)

- ☒ We have provided a full data availability statement in the manuscript.

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Confirm that all relevant data are deposited into a public repository and that accession codes are provided.

- ☐ All relevant accession codes are provided ☐ Accession codes will be available before publication ☒ No data with mandated deposition

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Code availability statement

For all studies using custom code or mathematical algorithm that is deemed central to the conclusions, the manuscript must include a statement under the heading "Code availability" describing how readers can access the code, including any access restrictions. Code availability statements should be provided as a separate section after the data availability statement but before the References.

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Data presentation

For all data presented in a plot, chart or other visual representation confirm that:

n/a | Confirmed

- ☒ ☐ Individual data points are shown when possible, and always for $n \leq 10$
- ☒ ☐ The format shows data distribution clearly (e.g. dot plots, box-and-whisker plots)
- ☒ ☐ Box-plot elements are defined (e.g. center line, median; box limits, upper and lower quartiles; whiskers, 1.5x interquartile range; points, outliers)
- ☒ ☐ Clearly defined error bars are present and what they represent (SD, SE, CI) is noted

Image integrity

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☐	☒ Human research participants
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Human research participants

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- ☒ We have complied with all relevant ethical regulations and include a statement affirming this in the manuscript.

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Confirm that the manuscript states the name(s) of the board and/or institution that:

- ☒ Approved the study protocol -OR- ☐ Provided guidelines for study procedures (if protocol approval is not required)

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- ☐ We have obtained informed consent from all participants and this is noted in the manuscript.

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For publication of identifiable images of research participants, confirm that consent to publish was obtained and is noted in the Methods.

Authors must ensure that consent meets the conditions set out in the [Nature Portfolio participant release form](#).

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☐ We have provided the trial registration number from [ClinicalTrials.gov](#) or an equivalent agency in the manuscript.

Phase 2 and 3 randomized controlled trials

We have provided the [CONSORT checklist](#) with your submission.

☐ Yes ☐ No ☒ Not a phase 2/3 randomized controlled trial

Tumor marker prognostic studies

We have followed the [REMARK reporting guidelines](#).

☐ Yes ☐ No ☒ Not a tumor marker prognostic study

I certify that all the above information is complete and correct.

Typed signature Adeel A. Butt

Date Jun 16, 2021

