Corrigendum: Evaluating the Propagation of Uncertainties in Biologically Based Treatment Planning Parameters

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A Corrigendum on
Evaluating the Propagation of Uncertainties in Biologically Based Treatment Planning Parameters
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The following corrections have been made to the original article.

Correction in Equation 1
In the original article, the first term of the Equation 1, Di, was omitted. The corrected Equation 1 appears below.

\[
LQED_i = D_i \cdot \frac{1 + \frac{\gamma}{\mu}}{1 + \frac{\gamma_{ eff}}{\mu}}
\]

Text Corrections
In the original article, the following typographical errors have been corrected.

Instances where tumor control probability (TCP) has been incorrectly written as tissue control probability, and normal tissue complication probability (NTCP) has been incorrectly written as normal tissue control probability. These instances were in the Abstract and Figure 1 caption.

In Results Paragraph 2, the following corrections have been made: Patient A was incorrectly referred to as Patient 4.

In Results Paragraph 8, the sentence: “A similar approach has been also used to investigate the impact of the input parameter uncertainties on the TCP calculations (see Figures 4A, D)” it should read (see Figures 4A-D). The sentence “The relationship D50 vs. TCP uncertainty showed a slight benefit for the higher dose structures (see Figure 4D)” should read “The relationship D_{eff}/D_{50} vs. TCP uncertainty showed a slight benefit for the higher dose structures (see Figure 4D).”
In Results Paragraph 9, the word NTCP in sentence: “The only response observed were for patients B and C, where there was a small impact on NTCP uncertainty after an uncertainty in the parameter of greater than 0.5.” should have been TCP. The correction is: "The only response observed were for patients B and C, where there was a small impact on TCP uncertainty after an uncertainty in the parameter of greater than 0.5."

In Results Paragraph 10, the slope parameter was referred to as m instead of γ in the sentence: “Uncertainties of 0, 0.1, and 0.3 were applied to the m parameter and are shown in Figures 5A–C, respectively”. The sentence should be: "Uncertainties of 0, 0.1, and 0.3 were applied to the m parameter and are shown in Figures 5A–C, respectively".

In Conclusion Paragraph 1, the word TPC in the sentence “The present approach estimates the errors on the NTCP/TPC values.” should be TCP. The correction is: "The present approach estimates the errors on the NTCP/TCP values.”.

Correction to Figure 4

There was a mistake in Figure 4 as published. Panel B displayed the graph for the PTV not the prostate and an error was found in the Deff/D50 value calculated for Pt B. There was a mistake in the legend for Figure 4 as published. The slope parameter is referred to as m instead of γ. There was a mistake in the caption for Figure 4. The first sentence was modified to address errors in referencing to individual panels.

FIGURE 4 | Data collected for Analysis 1, tumor control probability (TCP) calculations using the Lind model for the prostate and prostate PTV. PTV and prostate data displayed in Panel (A, B) respectively for Pt A. Patient B PTV data displayed in Panel (C). Panels show the impact on the overall TCP value as a result of increasing individual parameters. Values used for α/β, D50, and γ were 180 cGy, 4518 cGy and 1.16 respectively and the uncertainties applied are expressed as a fraction of each parameter. Panel (D) shows the relationship between D_{eff} (as a fraction of the D_{50}) and the uncertainty in the final TCP calculated for different levels of uncertainty in the D_{50} parameter.

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tissue should be tumor, TC should be TCP and the parameter m should have been referred to as parameter $\gamma$. A final sentence has been added to describe panel D. The corrected Figure 4 (including corrected legend) and caption appear below.

Correction to Figure 5 Caption

There was a mistake in the caption for Figure 5 as published. The parameter $\gamma$ was referred to as $m$ throughout the caption, the parameter $\alpha/\beta$ was referred to as $a/b$. Also “prostate” should read “prostate PTV”.

The authors apologize for these errors and state that these do not change the scientific conclusions of the article in any way. The original article has been updated.

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