



Correction to: A study for multi-layer skin burn injuries based on DPL bioheat model

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In the original publication of the article, the following equations has been incorrectly published. The corrected equations are given below:

$$Q_d = \frac{D_f c_{pW} (\rho_s - \rho_c)}{(\Delta r)^2} (T(r, t) - T_0), \quad (11)$$

$$\Delta m = \frac{D_v M_W}{R_a \delta c} \left[\left(\frac{P_W}{T_W} \right)_s - \left(\frac{P_W}{T_W} \right)_a RH \right], \quad (13)$$

$$M = M_f \begin{cases} l = 1 \text{ for first kind non-Fourier boundary condition,} \\ l = 2 \text{ for second kind non-Fourier boundary condition,} \\ l = 3 \text{ for third kind non-Fourier boundary condition.} \end{cases} \quad (40)$$

$$N_1 = \left[P_{mo} - Q_{vo} + \frac{F_l(F_0)}{h^2} P_{mo} - Q_{vo} \dots P_{mo} - Q_{vo} \right]^T, \quad (45)$$

$$\psi(F_0) = \begin{bmatrix} \psi_{10} & \psi_{11} & \dots & \psi_{1M'-1} & \psi_{20} & \psi_{21} & \dots & \psi_{2M'-1} & \psi_{2k-10} \\ & \psi_{2k-11} & \dots & \psi_{2k-1M'-1} & & & & & \end{bmatrix}^T \quad (49)$$

The original article can be found online at <https://doi.org/10.1007/s10973-020-09967-3>.

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$$C_2^T - M_l C_2^T X_2 - Z_2 = 0, \quad (58)$$

$$\begin{aligned} \theta(x, F_0) = & \frac{1}{U_{1,1}(U_{1,2} + 1)V_1} [-(U_{1,2} + U_{1,3})Q_{do}\theta_w \\ & + P_{mo}(\alpha(U_{1,2} + U_{1,3})\theta_w + (U_{1,1} - 1)(U_{1,1} - U_{1,2})) \\ & + (U_{1,2} - U_{1,1})(U_{1,1} - 1)Q_{vo}] \\ & + \sum_{n=0}^{\infty} \left(\frac{1}{U_{1,4} V_{1,n}} \right) [e^{F_0 V_{1,n} - U_{1,4}(x+2)} ((e^{2U_{1,4}x} + e^{2U_{1,4}})\theta_w (Q_{do} + V_{1,n}) \\ & + P_{mo}((e^{2U_{1,4}} - e^{U_{1,4}x})(e^{U_{1,4}x} - 1) - \alpha(e^{2U_{1,4}x} + e^{2U_{1,4}})\theta_w) \\ & + Q_{vo}(-(e^{2U_{1,4}} - e^{U_{1,4}x}))(e^{U_{1,4}x} - 1))], \end{aligned} \quad (60)$$

$$\begin{aligned} \theta(x, F_0) = & -\frac{1}{U_{2,1}(U_{2,2} + 1)V_2} [(U_{2,2} + U_{2,3})Q_{do}\theta_w \\ & + P_f^2((U_{2,2} - U_{2,1})(-1 + U_{2,1})\theta_b + (U_{2,2} + U_{2,3})\theta_w) \\ & + P_{mo}((U_{2,2} - U_{2,1})(-1 + U_{2,1}) - (U_{2,2} + U_{2,3})\alpha\theta_w)] \\ & + \sum_{n=0}^{\infty} \frac{1}{U_{2,4} V_{2,n}} [e^{F_0 V_{2,n} - U_{2,4}(x+2)} ((e^{2U_{2,4}x} + e^{2U_{2,4}}) \\ & \theta_w (Q_{do} + V_{2,n}) + P_f^2((e^{2U_{2,4}} - e^{U_{2,4}x})(e^{U_{2,4}x} - 1)\theta_b \\ & + (e^{2U_{2,4}x} + e^{2U_{2,4}})\theta_w) + P_{mo}((e^{2U_{2,4}} - e^{U_{2,4}x}) \\ & (e^{U_{2,4}x} - 1) - (e^{2U_{2,4}x} + e^{2U_{2,4}})\alpha\theta_w)], \end{aligned} \quad (61)$$

$$\begin{aligned} \theta(x, F_0) = & -\frac{1}{U_{3,1}(U_{3,2} + 1)V_3} \\ & [(U_{3,2} + U_{3,3})Q_{do}\theta_w + P_f^2((U_{3,2} - U_{3,1})(-1 + U_{3,1})\theta_b \\ & + (U_{3,2} + U_{3,3})\theta_w) \\ & + P_{mo}((U_{3,2} - U_{3,1})(-1 + U_{3,1}) - (U_{3,2} + U_{3,3})\alpha\theta_w)] \\ & + \sum_{n=0}^{\infty} \frac{1}{U_{3,4} V_{3,n}} [e^{F_0 V_{3,n} - U_{3,4}(x+2)} ((e^{2U_{3,4}x} + e^{2U_{3,4}}) \\ & \theta_w (Q_{do} + V_{3,n}) + P_f^2((e^{2U_{3,4}} - e^{U_{3,4}x})(e^{U_{3,4}x} - 1)\theta_b \\ & + (e^{2U_{3,4}x} + e^{2U_{3,4}})\theta_w) \\ & + P_{mo}((e^{2U_{3,4}} - e^{U_{3,4}x})(e^{U_{3,4}x} - 1) \\ & - (e^{2U_{3,4}x} + e^{2U_{3,4}})\alpha\theta_w)], \end{aligned} \quad (62)$$

The word “Temperature” should be omitted in the figure captions 5 to 13. The corrected figure captions are given below:

Fig. 5 Epidermis layer: Effect of $F_{oq} = 0.00696379$ and $F_{ot} = 0$ on skin temperature with the first kind non-Fourier boundary condition

Fig. 6 Dermis layer: Effect of $F_{oq} = 0.0140766$ and $F_{ot} = 0$ on skin temperature with the first kind non-Fourier boundary condition

Fig. 7 Subcutaneous layer: Effect of $F_{oq} = 0.00791667$ and $F_{ot} = 0$ on skin temperature with the first kind non-Fourier boundary condition

Fig. 8 Epidermis layer: Effect of $F_{oq} = F_{ot} = 0.00696379$ on skin temperature with the first kind non-Fourier boundary condition

Fig. 9 Dermis layer: Effect of $F_{oq} = F_{ot} = 0.0140766$ on skin temperature with the first kind non-Fourier boundary condition

Fig. 10 Subcutaneous layer: Effect of $F_{oq} = F_{ot} = 0.00791667$ on skin temperature with the first kind non-Fourier boundary condition

Fig. 11 Epidermis layer: Effect of lagging on skin temperature with the first kind non-Fourier boundary condition at $F_o = 0.5$

Fig. 12 Dermis layer: Effect of lagging on skin temperature with the first kind non-Fourier boundary condition at $F_o = 0.5$

Fig. 13 Subcutaneous layer: Effect of lagging on skin temperature with the first kind non-Fourier boundary condition at $F_o = 0.5$

The original article has been corrected.

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