MATHEMATICAL BIOSCIENCES
AND ENGINEERING
Volume **9**, Number **3**, July **2012**

doi:10.3934/mbe.2012.9.697

pp. **697–697**

ERRATUM TO: INVESTIGATING THE STEADY STATE OF MULTICELLULAR SHEROIDS BY REVISITING THE TWO-FLUID MODEL

Antonio Fasano and Marco Gabrielli

Dipartimento di Matematica "U. Dini", Universita' di Firenze
Viale Morgagni 67/A, 50134 Firenze, Italy

Alberto Gandolfi

Istituto di Analisi dei Sistemi ed Informatica "A. Ruberti" - CNR
Viale Manzoni 30, 00185 Roma, Italy

In our paper [1], equation (45) has been reported incorrectly. Its actual form is as follows:

$$\begin{aligned}\frac{2\gamma}{R} =& \frac{1}{\nu(1-\nu)}\frac{\chi R^2}{3K}\left\{\frac{R}{\rho_D}\left[1-\left(\frac{\rho_P}{R}\right)^3\right]-\frac{3}{2}\left[1-\left(\frac{\rho_P}{R}\right)^2\right]\right\}\\ &+\frac{4}{3}\eta_C\chi\left(\frac{R}{\rho_D}\right)^3\left[1-\left(\frac{\rho_P}{R}\right)^3\right]\\ &+2\sqrt{3}\tau_0\left[\ln\frac{\rho_P}{\rho_D}+\frac{1}{3}\ln\frac{\sqrt{2}(\frac{R}{\rho_P})^3+\sqrt{1+2(\frac{R}{\rho_P})^6}}{\sqrt{2}+\sqrt{3}}\right].\end{aligned} \tag{45}$$

The comments that followed Eq. (45) then change accordingly. It is immediate to realize that the presence of τ_0 has two effects: it increases the minimal value of the surface tension needed for the existence of the steady state, and, given γ, if (45) has a solution this solution is greater than the solution of (35). However, since it is possible that the surface tension γ has a monotone dependence on the yield stress τ_0 (both these quantity have their physical origin in the intercellular adhesion bonds), a partial compensation of the effect of the yield stress on the determination of R can be expected.

REFERENCES

[1] A. Fasano, M. Gabrielli and A. Gandolfi, *Investigating the steady state of multicellular spheroids by revisiting the two-fluid model*, Math. Biosci. Eng., **8** (2011), 239–252.

Received for publication July 12, 2012.

E-mail address: fasano@math.unifi.it
E-mail address: marcogabrielli@libero.it
E-mail address: alberto.gandolfi@iasi.cnr.it