frontiers in Neurology

CORRECTION
published: 10 June 2019
doi: 10.3389/fneur.2019.00603

Corrigendum: The Blood-Brain Barrier Breakdown During Acute Phase of the Pilocarpine Model of Epilepsy Is Dynamic and Time-Dependent

*Natália Ferreira Mendes[1†], Aline Priscila Pansani[2†], Elis Regina Ferreira Carmanhães[1], Poliana Tange[1], Juliana Vieira Meireles[1†], Mayara Ochikubo[1], Jair Ribeiro Chagas[3], Alexandre Valotta da Silva[1], Glaucia Monteiro de Castro[1] and Luciana Le Sueur-Maluf[1]**

[1] Departamento de Biociências, Universidade Federal de São Paulo, Santos, Brazil, [2] Departamento de Neurologia e Neurocirurgia, Universidade Federal de São Paulo, São Paulo, Brazil, [3] Departamento de Psicobiologia, Universidade Federal de São Paulo, São Paulo, Brazil

Keywords: epilepsy, blood-brain barrier, pilocarpine, status epilepticus, Evans blue, sodium fluorescein

OPEN ACCESS

Approved by:
Frontiers Editorial Office, Frontiers Media SA, Switzerland

****Correspondence:***
Luciana Le Sueur-Maluf
luciana.maluf@unifesp.br;
lucianamaluf@gmail.com

†Present Address:
Natália Ferreira Mendes, Faculdade de Enfermagem, Universidade Estadual de Campinas, Campinas, Brazil
Aline Priscila Pansani, Departamento de Ciências Fisiológicas, Universidade Federal de Goiás, Goiânia, Brazil
Juliana Vieira Meireles, Unidade de Cardiologia do Exercício, Hospital Sírio Libanês, São Paulo, Brazil

Specialty section:
This article was submitted to Epilepsy, a section of the journal Frontiers in Neurology

Received: *22 April 2019*
Accepted: *22 May 2019*
Published: *10 June 2019*

Citation:
Mendes NF, Pansani AP, Carmanhães ERF, Tange P, Meireles JV, Ochikubo M, Chagas JR, da Silva AV, Monteiro de Castro G and Le Sueur-Maluf L (2019) Corrigendum: The Blood-Brain Barrier Breakdown During Acute Phase of the Pilocarpine Model of Epilepsy Is Dynamic and Time-Dependent. Front. Neurol. 10:603. doi: 10.3389/fneur.2019.00603

A Corrigendum on

The Blood-Brain Barrier Breakdown During Acute Phase of the Pilocarpine Model of Epilepsy Is Dynamic and Time-Dependent

by Mendes, N. F., Pansani, A. P., Carmanhães, E. R. F., Tange, P., Meireles, J. V., Ochikubo, M., et al. (2019). Front. Neurol. 10:382. doi: 10.3389/fneur.2019.00382

In the original article, there was a mistake. In the **Discussion**, "Figure 5" was referenced instead of "Figure 7."

A correction has been made to the **Discussion**, paragraph nine:

"In conclusion, our findings indicate that BBB breakdown is a dynamic phenomenon and time-dependent, i.e., it happens at specific time-points of the acute phase of pilocarpine model of epilepsy, recovering in part its integrity afterwards (**Figure 7**). We show that pilocarpine-induced changes on brain tissue initially increased the permeability of the BBB to micromolecules, and subsequently, after SE, the BBB breakdown to macromolecules occurred. Although the BBB permeability to macromolecules is restored 24 h after SE, the leakage of micromolecules persists and the consequences of BBB degradation are widely disseminated in the brain, which in turn may induce further episodes of BBB breakdown. Together, our data reveal the existence of a temporal window of BBB dysfunction during the acute phase of the pilocarpine model that is important for the development of therapeutic strategies to prevent the epileptogenesis."

Additionally, **Figure 7** was not provided in the original manuscript. **Figure 7** appears below.

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

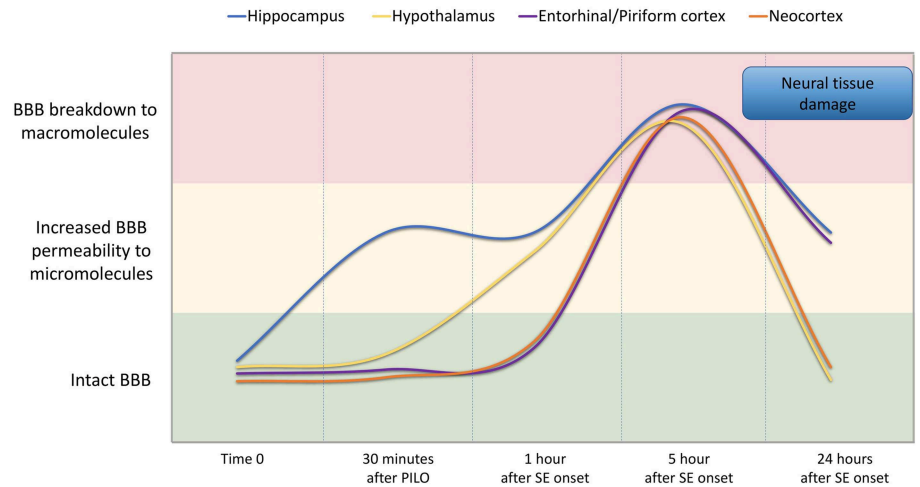

FIGURE 7 | Representation of BBB permeability during the acute phase of the pilocarpine model. The colored bands correspond to the BBB status: intact (green band), increased permeability to micromolecules (yellow band), and breakdown to macromolecules (red band). The lines represent the dynamics of the BBB opening and restoration over time in the regions of the hippocampus (blue line), hypothalamus (yellow line), entorhinal and pyriform cortex (purple line), and neocortex (orange line). Note that increased BBB permeability for micromolecules is observed from 30 min after PILO injection, and the BBB breakdown for macromolecules occurs about 5 h after SE onset. Although the BBB permeability to macromolecules is restored 24 h after SE initiation, the leakage of micromolecules persists and the consequences of BBB degradation on brain tissue are widely disseminated in the brain.