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CORRECTION

Correction to: Polycaprolactone microparticles for the subcutaneous administration of cannabidiol: in vitro and in vivo release

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Correction: to: Drug Delivery and Translational Research
https://doi.org/10.1007/s13346-023-01444-2

The authors make the following corrections and clarifications of omissions:

Authorship and Roles

The name of Dolores Hernán is incorrect in the original article. It is correct as reflected here. This paper is based primarily on the dissertation of Dr. Hernán Pérez de la Ossa. Her roles on the manuscript included: conceptualization, experimental design, formal analysis and investigation, and preparation of the original draft of this publication. The roles of JLP were methodology and formal analysis as well as investigation. The roles of AHL were funding acquisition, resources, and supervision.

Material and methods

Drug content and drug release studies

The validation of the HPLC method used to quantify CBD in both drug content and drug release studies is included in the dissertation of Hernán Pérez de la Ossa [1].

Animal experimental procedure

Experiments conducted at Virginia Commonwealth University used male ICR mice from Harlan Laboratories (Dublin, VA) and the experiments conducted at Complutense University of Madrid used ICR mice from Charles River Laboratories (Massachusetts, United States).

Analytical procedure to determine CBD blood and brain levels

The analytical procedure included in the original publication is the one used at Virginia Commonwealth University. The procedure used at Complutense University is as follows:

> The quantification of CBD in blood and brain tissues from 15/150-MP and 30/150-MP treated mice was carried by LC-MS following the protocol described in the methods of the original manuscript with few modifications. In brief, blood and brain samples were homogenized with 1 mL of ice-cold 50 mMTris-HCl, pH 7.4. Subsequently, two consecutive extractions were carried out. For each extraction, 2 mL of cold acetonitrile (stored for 5 min at – 20 °C) was added and samples were vortexed for 2 min. The samples were then centrifuged (Universal 32R centrifuge; Hettich, Germany) at 4 °C and 152 RFC for 15 min. The supernatants were carefully recovered and stored overnight at -20 °C. The acetonitrile layer was care-

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fully recovered and evaporated to dryness using a Savant SpeedVac concentrator SPD121P (Holbrook, N.Y., USA). Finally, the dried samples were resolubilised in 0.1 mL of acetonitrile, filtered using a PTFE 0.22 µM syringe filter 4 mm and placed into vials with 100 µL inserts for LC-MS analysis.

The LC-MS quantification of CBD was conducted using a previously described method with slight modifications [2]. A liquid chromatography coupled to a triple quadruple mass spectrometer equipped with a turbo ion spray source operating in positive ion mode (LCMS 8030, Shimadzu) was used. Chromatographic separation was performed using a Phenomenex Gemini C18 column (110 Å, 150 × 2 mm), with an injection volume 10 µL, a flow rate of 0.5 mL/min, and run time of 10 min. The mobile phase consisted of phase A (0.1% formic acid in water) and phase B (0.1% formic acid in acetonitrile). The analysis was carried out in gradient mode: from 5 to 50% phase B – 5 min; 95% phase B – 7 min; 5% phase B – 8 min; until 10 min initial conditions. Ions were analysed in a MRM mode. Mass transitions of m/z 314.9 > 192.9 (CE = − 32 V) were used for quantification and m/z 314.9 > 123.0 (CE = − 33 V) for identification.

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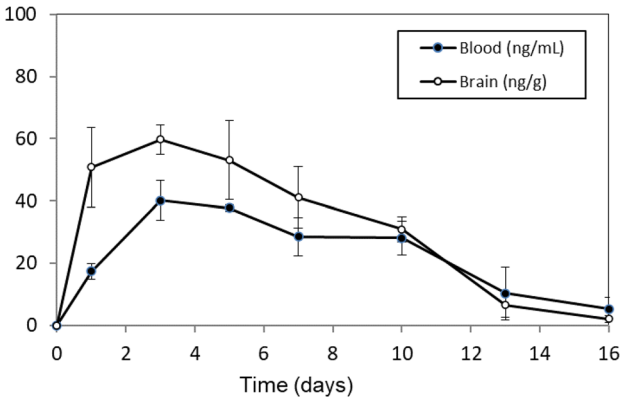
Calibration curves were prepared for each assay with mouse whole blood and brains obtained from untreated animals, and adding 0.5–250 ng of CBD; and CBD solutions in ACN from 2 to 2500 ng/ml.

Results

In vivo studies

Figure 4A, left panel: The x-axis of the graph has been modified to show the 16-day study duration. This update does not affect the results or conclusions of this article.



There are typographical errors in the text regarding the MRT values in blood and brain after administration of 15/150 MP, reported to be 6.27 and 5.54 days respectively. The correct values are those reflected in Table 2 and 3: 6.44 and 6.15 days, respectively.

Acknowledgements

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Ethical statement

Vertebrate animal experiments conducted at VCU were approved by the VCU Institutional Animal Care and Use Committee.

The original article has been corrected.

References

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