

**Institute of Pharmaceutical Technology and
Regulatory Affairs
Faculty of Pharmacy
University of Szeged**

I. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science

Szeged, Hungary



**31th January
2019**



**I. Symposium of Young Researchers on Pharmaceutical Technology,
Biotechnology and Regulatory Science**

Institute of Pharmaceutical Technology and Regulatory Affairs

Faculty of Pharmacy

University of Szeged

Szeged, Hungary

January 31th 2019

DOI: [10.14232/syrptbrs.2019.af](https://doi.org/10.14232/syrptbrs.2019.af)

Edited by Tivadar Bíró, Ildikó Csóka

I. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science

January 31th 2019. Szeged, Hungary

OP-19

DOI: 10.14232/syrptbrs.2019.op19

Nasal formulation of active ingredients to induce systemic and central nervous systemic effects

Péter Gieszinger, Rita Ambrus, Piroska Szabó-Révész

Institute of Pharmaceutical Technology and Regulatory Affairs, Interdisciplinary Excellence Centre, University of Szeged, Szeged, Hungary

Nasal drug delivery has become one of the most researched alternative drug administration route in the last decades. The reason of the increasing interest is, that due to the unique anatomical and physiological properties, local, systemic and direct Central Nerve System (CNS) effects are available via nasal administration. In the case of therapies (e.g. CNS diseases, brain tumors), where the point of attack is in the brain, nasal drug administration can improve the efficiency of the treatment. Powders have some favourable physicochemical properties over liquid formulations, so in some cases they are preferred dosage forms [1]. Reducing the particle size to the nano range is also a common way to modify the properties of a drug and can affect its bioavailability in a positive way [2]. The aim of this research is to formulate and develop one or more alternative dosage forms for lamotrigine (LAM), that is a BCS II. antiepileptic drug and only available on the market in tablet form [3]. Since the beginning a nanosized LAM containing nasal powder has been produced, the process of sample preparation has been optimized and the samples were tested *in vivo* [4].

References

1. Fasiolo T. et al. L. Eur. J. Pharm. Sci. 113, 2-17 (2018)
2. Zhi H. L. et al. Asian. J. Pharm. 10, 255-274 (2015)
3. Srivalli R. M. K. et al. Saudi. Pharm. J. 21, 45-52 (2013)
4. Gieszinger P. et al. Drug Dev. Ind. Pharm. 44, 1622-1630 (2018)

Acknowledgement

Ministry of Human Capacities, Hungary grant 20391-3/2018/FEKUSTRAT is acknowledged.