Repeated lumbar punctures within 3 days may affect CSF biomarker levels - Repeated lumbar punctures. After sleep deprivation and 3 days later, after recovery sleep

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Withdrawn

This version has been withdrawn and the data are no longer available from SND's research data catalogue. Please note that there may be a newer version available.

Withdrawal due to update of SND's metadata profile. The dataset is now included in https://doi.org/10.5878/14p1-3w07.

Citation

Olsson, M., Ärlig, J., Hedner, J., Blennow, K., & Zetterberg, H. (2019) Repeated lumbar punctures within 3 days may affect CSF biomarker levels - Repeated lumbar punctures. After sleep deprivation and 3 days later, after recovery sleep (Version 1.0) [Data set]. University of Gothenburg. Available at: https://doi.org/10.5878/cavp-eh78

Creator/Principal investigator(s)

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Description

As an extension of a study on the relationship between sleep deprivation and cerebrospinal fluid (CSF) biomarkers for Alzheimer's disease, we performed two Lumbar punctures (LPs) within three days in 13 healthy volunteers. Our aim was to investigate CSF biomarker dynamics in relation to sleep deprivation. An unexpected sharp rise in biomarker concentrations in the second sample made us consider an artifact and we therefore repeated the experiment, but without sleep restriction, in four additional individuals. A similar rise in biomarker levels were evident, suggesting an inherent methodological problem with repeated LPs.

Biomarker concentrations from each individual lumbar puncture. First puncture immediately after sleep deprivation. Second puncture three days later, after recovery sleep.

Language

English

Unit of analysis

Individual/Patient

Population

Healthy volunteers

Study design

Cross-over

Description of study design

Randomized crossover

Sampling procedure

Other

13 healthy volunteers recruited by posters on university campus. 20-40 years of age with no sleep disturbances. Body-Mass-index (BMI) < 30 kg/m2. No continual use of medication or relevant chronic diseases. Self-reported normal bedtime < 00.00, regular morning awakening hours 06.00-09.00, habitual sleep duration of between 6.5-8.5 hours and absence of sleep disturbances (such as chronic insomnia/daytime sleepiness/narcolepsy). Epworth Sleepiness Scale (ESS) score < 11.

Time period(s) investigated

2015-02-01 – 2016-02-29

Biobank is connected to the study

Yes

Variables

8

Number of individuals/objects

13

Data format / data structure

Numeric

Responsible department/unit

Institute of Neuroscience and Physiology

Ethics Review

Gothenburg - Ref. 823-14

Research area

Medical and health sciences (Standard för svensk indelning av forskningsämnen 2011)

Keywords

Cerebrospinal fluid, Cerebrospinal fluid proteins, Amyloid beta-peptides, Lumbar puncture, Tau,

Cerebrospinal fluid proteins, Csf

Publications

Olsson M, Arlig J, Hedner J, Blennow K, Zetterberg H. Sleep deprivation and cerebrospinal fluid biomarkers for Alzheimer's disease. Sleep. 2018;41(5). https://doi.org/10.1093/sleep/zsy025
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Olsson, M., Ärlig, J., Hedner, J. et al. Repeated lumbar punctures within 3 days may affect CSF biomarker levels. Fluids Barriers CNS 16, 37 (2019) doi:10.1186/s12987-019-0157-2
Link to article
DOI: https://doi.org/10.1186/s12987-019-0157-2

Use of data

Things to consider when using data shared through SND

Versions

Version 1.0. 2019-11-29

This resource has the following relations

Is obsoleted by Data showing how Repeated Lumbar Punctures within 3 days may affect CSF Biomarker Levels

Related research data in SND's catalogue

Data showing how Repeated Lumbar Punctures within 3 days may affect CSF Biomarker Levels

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