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Introduction: REM-on neurons in the brainstem are inhibited by the GABAergic REM-of neurons in the ventrolateral periaqueductal gray (vlPAG) and the adjacent dorsomedial mesencephalic reticular formation (dMRF). In the above mentioned brain regions, a subpopulation of GABA-ergic cells with similar locations to those of the REM-of neurons express Skor2. Skor2 is a transcription factor which is involved in the differentiation of GABAergic neurons. We wanted to clarify whether the GABAergic REM-of neurons in the dMRF/vlPAG belong, at least in part, to the Skor2 expressing cells.

Methods: Male Han-Wistar rats ($n = 6$) were deprived of REM sleep (REMS) on small platforms surrounded by water for 72 h using the water tank (inverted flowerpot) method. Animals on large platforms ($n = 6$) or in dry cage ($n = 5$) served as controls. At the end of the REM sleep deprivation/sham deprivation, the animals were sacrificed by intraperitoneal administration of 400 mg/kg chloral hydrate, perfused with phosphate buffered saline and 4% paraformaldehyde and the brains were removed. Sections covering the dMRF/vlPAG area were collected and stained for the expression of c-Fos and Skor2. The co-expression of c-Fos and Skor2 in the dMRF/vlPAG was analysed in the REMS deprived rats compared to that in the nondeprived control animals.

Results: In the dMRF/vlPAG, the proportions of the c-Fos positive neurons from the Skor2 expressing cells were significantly higher in the REMS deprived rats than in the in the control animals (control rats in dry cage: 14.5%, control rats on large platforms: 23.3%, REMS deprived rats: 40.8%; Kruskal-Wallis and Wilcox tests).

Discussion: The enhancement of c-Fos expression by REMS deprivation indicates that Skor2 expressing GABAergic neurons in the dMRF/vlPAG may be involved in the regulation of REMS.

Disclosure: No

P626 | How do preadolescents and older adults fall asleep? Spatiotemporal electrophysiological patterns of the sleep onset process during lifespan

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Introduction/Objectives: Sleep and wakefulness do not reflect mutually-exclusive states, but instead represent local phenomena. Despite the massive age-related modifications occurring during lifespan, the electrophysiological (EEG) Sleep Onset (SO) features in preadolescence and healthy aging have not been exhaustively investigated. Thus, we aimed to describe spatiotemporal EEG dynamics of SO in preadolescents and older adults.

Methods: The pre- vs- post-SO changes in the topography of EEG power (1-Hz-frequency-resolution) and the time course of the EEG frequency bands during SO were assessed in a group of 23 preadolescents (9–14 years, Experiment 1) and in a group of 36 older participants (59–81 years, Experiment 2). Additionally, we compared delta/beta ratio and delta activity during SO between these groups (Experiment 1: preadolescents, Experiment 2: elderly) and a group of 40 young adults (18–29 years).

Results: Experiment 1. Preadolescents showed a postSO increase (A) of power spectra in the low frequencies (0.5–6 Hz), with a central predominance (0.5–2 Hz), (B) at 12–13 and 14–15 Hz localized over frontal and central areas, respectively, and (C) of the lowest beta over central areas. Preadolescents showed higher delta/beta ratio in posterior areas (pre and postSO), higher delta power over posterior (preSO) and centro-posterior areas (postSO) and reduced delta/beta ratio and delta power in frontal areas (postSO).

Experiment 2. Elderly exhibited a power increase postSO of lower frequencies; the alpha band showed a particular pattern of postSO modifications; sigma power slightly increased postSO and its highest bins showed a decrease in frontotemporal areas. Compared to young adults, elderly displayed a reduced delta power and delta/beta ratio both before and after SO.

Conclusions: Preadolescents showed not entirely mature spindles and a more posterior delta activity, expression of strong homeostatic need from the "developing" areas; the decreased delta activity in elderly might reflect a reduced homeostatic regulation during SO. Taken together, these findings depict the scenario known for adults but with peculiarities pointing to different homeostatic regulation likely accountable for the observed age-related SO dynamics.

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P627 | Sleep, cardiovascular disease risk and nocturnal blood pressure dipping in adults of african descent

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Introduction: Individuals of African descent have been shown to have a high cardiovascular disease (CVD) burden and poor-quality sleep. To build on the relationship between sleep duration and CVD risk, we describe associations between CVD risk and sleep quality and timing in individuals of African descent. We also provide preliminary data on the relationship between nocturnal blood pressure (BP) dipping