268. THE PAT FAMILY OF PROTEINS IN THE NORMAL AND PATHOLOGICAL LIPOLYSIS

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Introduction. Investigations of the structure of fat droplets (PL), intracellular deposits of excess fat have revealed the presence of several proteins on their surface that are involved in theirs metabolism. Like any other cellular organelles, their surface is rich in a lot of proteins that regulate their functions. Of these, five were reunited in the PAT family: perilipin (perilipin1), adipophilin (perilipin 2), TIP47 (perilipin 3), S3-12 (perilipin 4) and OXPAT (perilipin 5). Conflicting hypotheses proposed for explaining the role of the PAT family of proteins in different pathologies motivated us into initiating this study.

Point. To study the role and the properties of the proteins included in the PAT family, their expression in various cells and their possible involvement in different pathologies.

Material and methods. Using the literature in the last 10 years we have investigated the role perilipins play in different pathologies.

Result. The PAT family of proteins, in addition to the major role it plays in the metabolism of PL, was found to have a lot of implications in human pathology. Perilipins are one of the pathogenetic factors in hepatic steatosis, atherosclerosis, myocardial infarction and obesity. Besides their use in the prognosis of these diseases, a possibility of intervention on the PAT family of proteins arises at the molecular level, with implications in treatment. Perilipin 2 along with aquaporin 1 may serve as a marker of clear cell kidney cancer, can help differentiating renal malign masses from benign ones. In other cancers, perilipin analysis may be useful for determining the type of cancer growth or its primary origin.

Conclusion: (1) Perilipin 1 subtype A is expressed in adipose tissue and the C subtype in the steroidogenic cells. Perilipin 5 is expressed primarily in cardiac muscle, where it influences the lipid metabolism. Perilipin 2 and 3 becomes expressed in some types of cancers. (2) Understanding the major role the perilipins play in the metabolism of PL can move us forward understanding pathologies involving them, allowing us to predict or prevent the occurrence of some diseases. (3) Genetic interventions on perilipin gene could be a real opportunity for treating and slowing down some diseases.

269. RESPIRATORY PATTERN'S MODIFICATIONS AT HEALTHY SUBJECTS,UNDER THE INFLUENCE OF EMOTIONS.

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Introduction: The respiratory pattern represents a set of volume and time parameters which characterize respiration, and in special movements Associated with it. Indices of respiratory pattern are very sensible at various psihoemotional actions (Boiten 1994). Nowadays the psychophysiology of breath has a broader development, in special was proved that different emotions can modify the respiratory pattern (Boiten 1998).We realised this research in order to establish the specific influence of various emotions or of emotional behaviour on the components of the respiratory pattern. In the previous researches (Boiten 1998) the influence of the emotions was studied only on a few parameters (2-3) of the respiratory pattern. Nowadays the physiological experimental practice allow us to realise a more precise and keen measurement of the respiratory pattern.

Materials and methods: The study was realised on a sample of 10 healthy subjects, 6 women and 4 men aged 19 to 24 years. The respiratory pattern was recorded by respiratory plethysmography with inductance using the VisuResp (UBI France) device. All recordings were performed in the supine position. Emotional states were modeled by showing video sequences or films thru a lap- top located next to the examined person. Videos lasted 2 min each with 2 min breaks between them. Modeled emotional states*:* disgust*,* horror*,* amusement*,* sadness*,* fear (anxiety)*,* tenderness. he routes obtained were analyzed using the VisuResp software while statistical processing was performed using the StatsDirect program.

The following parameters of the respiratory pattern where examined:

Vt- Tidal volume(l); Ti- the duration of inspiration(sec);T- total duration of the respiratory cycle(sec);Ti/T- the part of inspiration from the total cycle; Vi/Ti- the inspiratory drive; VIF- minute-volume(air flow in 1 min).

Discussion results: The analysis of the obtained results revealed that the biggest effect on the parameters studied had the feeling of digust. Three respiratory pattern values of six studied were changed statistically significant under the action of this emotional behavior.

The tidal volume was decreased (0.260±0.08 vs 0.319±0.96; $P<0.005$) also did the minute-volume (4.55±1.37vs4.86±1.34, $P<0.05$) while the respiratory drive was raised (0.179±0.05vs0.11±0.04, $P<0.05$). The respiratory drive proved to be also sensible to the sense of fear (0.178±0.05vs0.11±0.04,$P<0.05$) and tenderness (0.181±0.05vs0.11±0.04,$P<0.05$). The minute-volume reduced at the reproduction of sadness(4.51±1.46vs4.86±1.34,$P<0.05$) and fear (anxiety) (4.41±1.51vs4.86±1.34,$P<0.05$).

The character of observed changes complete the data obtained by previous authors, enlarging the knowledge spectrum on influence of emotions on respiratory pattern. These data allow us to suppose that the keen tuning of the respiratory behavior is taking place with the contest of CNS structures involved in the generation and expression of the emotions. Also these structures are involved in the tuning of respiration (Davis 1992, Masaoka et at 2012).

Conclusion:The data we obtained contribute to a better understanding of the psychophysiological tuning of respiration.

Key-words:respiration,emotions.