

**Objective.** To study the effect of the duration of inhalation and exhalation, and their relation to the respiratory heart arrhythmia (RHA) and observe changes in vagal tone during the test

**Methods** 13 non-smoking subjects were selected (4 of them men) with an average age of 20 + \ - 2 years, they were all healthy, don't suffer of cardiac arrhythmia, not obese and don't take drugs, also don't drink caffeine-containing products for 4 hours before the experiment.

**Procedure** The subjects were instructed at first to breathe as usual, then quickly inhale (3seconds) and slow exhale (7 seconds) and vice versa. Breathing and heart rate were recorded using biopac. Also subjects underwent tests about their anxiety and the state of the autonomic nervous system by Spielberger, by Moldovanu

**Results** According to the results of tests were increased values for the state of nervous, cardiovascular and digestive systems, shortness of breath, tremor and tetany. 5 subjects overestimated all indicators. The breathing rate was 6\min. During the test with a short inspiration after a long expiration ( $P = 0.00214$ ), RHA was higher than vice versa ( $P = 0.000775$ ). The heart frequency in both experiments was 89 b\m. The correlation hf\lf bands in 3\7 experiment was 0,09 and in 7\3 experiment 0,083

**Conclusions** RHA amplitude is influenced by the respiration rate and the amount of air exchanged per breath. Reducing the frequency of breathing increases RHA. Inspire blocks vagal cardiac regulation. During the test with a short inspiration after a long expiration vagal tone and RHA, was higher than in a long inspiration after a short expiration. The experiment also showed that the correlation of hf\lf bands has no effect on heart rate variability.

Keywords: paced respiration, Respiratory sinus, arrhythmia, Biopac.

### **304. THE CHICK EMBRYO CHORIOALLANTOIC MEMBRANE AS A MODEL FOR STUDYING OF ANGIOGENESIS PROCESS**

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**Introduction:** Cancer is the result of uncontrolled cell divisions, and angiogenesis processes are those that support and maintenance the tumor changes. Recently, the angiogenesis becomes one of the most studied physiological event due to the key role it plays in the pathogenesis of cancer as well because of its potential as a therapeutic target. To analyze the mechanisms underlying normal and pathological angiogenesis numerous angiogenic tests in vivo have been determined using different species of animals, including mammals, birds and fish. The range of biological studies in vivo of the angiogenesis allowed scientists to progress rapidly in highlighting of the action mechanism of multiple proangiogenic factors. The cost, simplicity, reproducibility, and credibility are the determinants that dictate the choice of method.

**Discussion:** Chick embryo chorioallantoic membrane (CAM) is a extremely vascularized extraembryonic membrane. It represents an accessible and inexpensive model in vivo, which is used

long time in the reproductive biology as well in studying of angiogenesis. Due to lack of immune system in early development and the absence of rejection reactions, CAM becomes the preferred model for studying of cancer and its metastasis process. The test consists by implantation of a culture of cells on the chorioallantoic membrane of the chick embryo. The incubation period ranges from 1-3 days, depending of the substances, after which angiogenesis can be quantified by the image analysis or by colorimetric methods of detection. Quantification of the angiogenic response is performed using the vascular scale (0 to 4). At the site of implantation, is identifying the vascular density (intensity of newly formed blood vessels) and the vascular index (highlighting of branching points in relation with overlapped ring).

**Conclusion:** CAM allows the study of tumor growth, of anti-tumor therapies, and of pro-tumor molecular pathways in a biologically relevant system, which is also an accessible and inexpensive model. Thereby, CAM is an excellent model to obtain information on partial questions still unresolved.

**Keywords:** Angiogenesis, Chorioallantoic membrane, Tumor growth.

### **305. CLINICAL ANATOMY OF THE LUMBAR REGION AND THE RETROPERITONEAL SPACE**

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**Introduction:** The knowledge of such aspects like clinical anatomy, skeletopy, syntopy and projection points of internal organs of lumbar region and retroperitoneal space has a big medical importance, being an indicator for diagnosis of multiple diseases. Retroperitoneal fat spaces can be compared with channels through which purulent collections can be spread and produce a great impact in clinical evolution and surgical approach in this region.

**Purpose and objectives:** Our study is based on revision of scientific literature which may define practical application and shows the value of the clinical anatomy, lumbar region and retroperitoneal space.

**Material and methods:** We studied and reviewed literary sources which highlight the importance of the clinical anatomy. For carrying out manipulations on the lumbar region and the retroperitoneal space, it is important to know the correlations between tissues, organs, and cellular spaces. Knowing the stratigraphy is paramount in diagnosing and addressing phlegmon and cold abscess, which is linked to the evolution and continuity of the fascia between regions.

**Results:** The analysis of results in the current study will contribute to increase the insurance of surgical techniques through the clinical importance of anatomical knowledge and relationships of anatomical formations in the lumbar region and the retroperitoneal space.

**Conclusion:** Knowledge of the lumbar region and the retroperitoneal space is very important to ensure patient safety and comfort. The practical value of the correlation between organs and retroperitoneal tissues increases the interest in understanding the evolution of purulent collections.