Referring to the same artery, it has also a huge variety according to its origin and its relation with adjacent vessels: in 58% of cases it has the same origin with circumflex femoral lateral and medial arteries, in 18% of cases it has a common trunk only with the lateral circumflex femoral artery, the medial one remains an independent branch of the femoral artery, in 15% of cases it has a common trunk with the medial circumflex femoral artery, the lateral one being independent, in 4% of cases the deep femoral artery has the origin on the femoral artery, in 3 % it has the same origin with lateral and medial circumflex femoral artery, but the lateral one has and individual branch, in 1% of cases the deep femoral artery has an independent trunk, in which the lateral and medial circumflex femoral artery have their origin as a common trunk. Also there are rare cases, such as: the deep femoral artery is a branch of external iliac artery and inferior epigastric artery, the medial circumflex artery is absent[T. F. Massoud si E. W.L. Fletcher (1997)].

Referring to Lateral circumflex femoral artery (LCFA), exist information that: 1) LCFA takes origin from deep femoral artery, here also is included case when exist 2 LCFA, both with origin from deep femoral artery; 2) LCFA derives from femoral artery, above origin of deep femoral artery, 3)LCFA derives from femoral artery below deep femoral artery, 4) LCFA derives from femoral artery above deep femoral artery, but here also exists a middle branch of LCFA which derives from femoral artery, but lower than deep femoral artery, 5) A descending branch of LCFA derives from femoral artery, above the origin of deep femoral artery, another ascending branch takes origin from deep femoral artery, 6) LCFA derives from deep femoral artery, but exist a secondary branch of LCFA which derives lower than deep femoral artery[Hozumi Fukuda, Mitsutaka Ashida (2004)]. Also information about this theme is presenting in following table.

Author	**Origin from femoral artery**	**Origin from Deep femoral artery**
Lipshutz (11) (1916)(N = 100)	59%	36%
Clarke et. Al (4) (1993) (N = 40)	53%	40%
Dixit (7) (2001) (N= 48)	62.5%	20.63%
Tanyeli (21) (2006) (N = 100)	75%	15%
MB Samarawickrama (16) (2009) (N = 26)	62%	31%
Shiny Vinila B. H (17) s.a (2012) (N = 40)	65%	18.4%

Conclusions: Diversity of vascularization remains a fact, that study aimed at systematizing this information. It remains to determine diversity of vascular profile at other levels of the human body.

Key words: variants of vascularization, deep femoral artery, lateral circumflex femoral artery, medial circumflex femoral artery.

300. ULTRADIAN BIORHYTHMS' INFLUENCE IN CELL POPULATION. APPLICATIVE ASPECTS

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Introduction: Ultradian biorhythms represent biological rhythms which last between 20 and 90 minutes. They were discovered in 50s of the last century and approved by using several techniques of quantitative and qualitative analyzes which demonstrated than that ultradian biorhythms were characteristic only for some segregated cells, and later there was discovered their influence in regulation and synchronization of adjacent cell population, also their importance in entire organism homeostasis maintaining. This research aims to evaluate and categorize the most important aspects of this approaches.

Materials and methods: In order to find answers to the proposed questions, a bioinformatic study is needed, by using PubMed and Link Springer data base which will be analyzed and structured in the following way.

Discussions and results: it was discovered that u. biorhythms have more than 20 impacts over cell functions and properties, such as ATP synthesis, nucleic acids synthesis, synthesis of proteins, cell activity, protein secretion, cell respiration, the amount of cAMP, and also sometimes u. biorhythms may influence even the weigh and the size of the cell. Ultradian biorhhythms were identified not only at human, but also at the rest of mammals, crustaceans, molluscs, protozoa, bacteria and other single-celled organisms.

During the study it was determined that this biorhythms are not anything else than the result of auto-organization of cell population's oscillations.

Actually, exists the idea that this biorhythms are synchronized by the gangliosides, this was confirmed by several experiments in vitro, where in the intercellular space of some cell populations was introduced gangliosides, and in this way was discovered that they were responsible for different processes, the most obvious one was the oscillations during proteins' synthesis.

More recent and more complex studies show us a more adaptable model regarding the synchronization of different cell populations, in this way the biorhythms control occurs as fallow: endogenously (interstitial fluid) which involves the following reactions: gangliosides, attach to specific receptors and release Ca2 + depots, calcium activates protein kinase, so the phosphorylation of specific proteins occurs and thus sets the stage of biorhythms of synthesis; Exogenously (blood) in the same way, the only difference is that protein kinase activated by cAMP which is activated by the adenylate cyclase, the last one (adenylate cyclase) is activated by adrenaline, serotonin, melatonin, etc. In this context, it was possible to insight and later to confirm by experimental studies that cell proliferation depends not only on circadian rhythms but also on those ultradian ones, in this way they having an applicable aspect in regenerations, ontogenesis and oncological diseases. Other practical aspects which may be named: heart work, the efficiency of catecholamine receptors and their secretion, the entire system of organs, intercellular communications, cellular function. Another aspect, also very important, is that the process of aging may be Associated with a imbalance of intercellular synchronization, therefore, imbalance at the level of different ultradian rhythms. Researched phenomenon has important application in several clinical aspects: 1) In this way it adjusts the functions of the entire body; 2) The mechanism affects the ability of the body to work well with a determined frequency; 3) The quantitative difference of some substances at different periods of time, is important in the effectiveness of drugs introduced in different phases of ultradian cycles; 4) The perspective to compensate aging effects by introducing certain substances in the intercellular space.5) Better understanding of different organ systems functionality and the possibility of diagnosis according to the case.

Conclusions: Ultradian biorhytms are not just a trend, and due to high-technologies developement, they may be used during diagnosis and during the treatement and planification of therapeutic maneuvers as well. It rests to elucidate, argumentate optimal, corect, economical and affordable methods of personalized determination of these rhythms.

Key Words: Ultradian Biorhytms, Synchronization, Cell Population.

301. GENETIC HETEROGENEITY IN DIABETES MELLITUS

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Introduction: Diabetes mellitus (DM) represents a group of pathological conditions that share the phenotype of hyperglycemia as the result of insulin deficiency or the disorders of insulin action. 90% of people with diabetes have type 2 diabetes (T2D), while type 1 diabetes (T1D) affects 10% of the patients. T1D has a strong autoimmune component, proved by the correlation with specific haplotypes of the HLA system. T2D develops mainly because of the β-cell dysfunction and insulin resistance. There are rare forms of DM caused by genetic defects of β-cell function, genetic defects of insulin action, diseases of the exocrine pancreas, endocrinopathies, diabetes induced by chemicals or infections.

The epidemiological aspects of DM impress with its worldwide expansion and high prevalence in people. Severe vascular and neurologic complications of diabetes reduce the quality and duration of life, bringing an economic impact to the countries' budgets. We have performed a study which was aimed for the determination of the genetic background and the evolutional features of the disease in patients with DM.

Materials and methods: The study was performed in the Department of Molecular Biology and Human Genetics, most of the patients being from the Department of Endocrinology, the Republican Clinical Hospital. We studied 34 clinical cases of DM: 19 male and 15 female patients, between 18 and 80 years old; 10 with the diagnosis of T1D, and 24 with T2D. The questionnaire included the following aspects: the debut of the disease, the features of the objective and paraclinical examination, the evolution of DM including acute and chronic complications, family history and life style.

Discussion results: The study has shown the following results: genetic susceptibility can be observed more frequently in patients with T2D; T2D is Associated with obesity, arterial hypertension and dyslipidemia while patients with T1D have normal body mass index; T1D may be Associated with other autoimmune diseases, such as autoimmune thyroiditis or rheumatic cardiopathy; many patients with T2D treated with oral antidiabetic drugs had to Associate insulin to their therapy, so, β-cell dysfunction plays an important role in T2D pathogenesis.

Conclusion: The pathogenesis of DM shows a strong genetic component Associated with life style features. So, it would be a great opportunity of preventing the disease and its complications by changing the habits in people with family history and genetic predisposition for DM. The principles of genomic medicine should be brought closed to the clinical medicine. The implementation of genetic