Objectives of the study were to elucidate the main etiopathogenic mechanisms, the criteria for diagnosis of metabolic changes and the most common complications in PCOS.

Materials and Methods: Relevant scientific articles regarding PCOS from medical databases were analyzed.

Results: The frequency of PCOS is estimated at 0.6-11% among gynecological diseases. PCOS is found in 1.5-20% women of childbearing age, 50-75% – with anovulatory infertility and 30-40% – with amenorrhea. Etiopathogenesis of PCOS remains unknown despite multiple studies. Decreased peripheral insulin sensitivity and consequently hyperinsulinemia are considered primary factors in the pathogenesis of PCOS. Insulin resistance and hyperinsulinemia are largely found laboratory symptoms of PCOS, insulin resistance being indentified in 25% of middle-aged pacients. Thyroid disorders also are frecuently accompaning PCOS, highlightening the link between PCOS and autoimmune thyroiditis, rising concern that female hormones may play a role in triggering these diseases. Of all cases of thyroid pathology there were an increased frequency of cases of goiter (49.2%) and autoimmune thyroiditis (41.3%). Metabolic manifestations of hyperandrogenism were identified in PCOS: 42.8% of the patients had increased levels of plasma testosterone with normal urine excretion of 17-CS, 28.6% – the increase in both plasma testosterone as well as 17-CS excretion. In 14.3% of patients ovarian hyperandrogenia genesis was demonstrated only by applying the test with dexamethasone and chorionic gonadotropin, while in 9.5% of patients hyperandrogenia could not be demonstrated by hormone investigations. In 30% of cases PCOS was accompaned by secondary hyperprolactinemia.

Conclusion: Based on available literature data polycystic ovarian syndrome may be defined by the presence of hyperandrogenic (clinical and/or biochemical) and ovarian (oligo-, anovulation and/or polycystic ovaries) disorders. The main metabolic symptoms of PCOS are hyperandrogenism, hyperinsulinemia with insulin resistance, hypo- and hyperthyroidism and secondary hyperprolactinemia. Most common complications are impaired glucose tolerance and type II diabetes, cardiovascular disorders (dyslipidemia, hypertension, coronary heart disease) and risk of abortion or premature birth.

Key words: Polycystic ovarian syndrome, hyperandrogenism, hyperinsulinemia, insulin resistance, hypothyroidism, hyperthyroidism, secondary hyperprolactinemia

8. THE CLINICAL ANATAMOMY OF HEART. THE CORD RAPPORT WITH BACK MUSCLES AND COLUMN SPINE

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Introduction: The heart is the engine of the body, being one of the main organs of the human body, placed in the median region of thorax. The heart is placed in the centre of the circulatory system, being a muscular organ which pumps blood in the human body. The circulatory system consists of arteries, veins and capillaries, which carry the blood from and to body regions.

Purpose and Objectives: To understand the great importance of the heart at clinical level and to apply the topographic anatomical knowledge about the vascularization and innervation of the heart and the influence of some muscule formation on the heart.

Results: The heart is the central organ of the cardiovascular system. It is situated in the mediastinum and has a triangular pyramid or a flattened cone shape, placed on the diaphragm. The heart axis is directed obliquely downward, toward the left. The heart wall is made of 3 layers, each one consisting of some nervo-vascular formations. They are of great importance. Arterial vascularization is provided by the coronary arteries, which originate in the right and left aortic sinuses. The big coronary arteries run on the surface of the the heart and give subendocardial branches. The irigation of the heart is made in diastole. The coronary arteries are classified as "end circulation", with little anostomoses between branches. The heart vascularization scheme: The right coronary artery: the inferior and posterior wall of the left ventricle, 1/2 posterior of the septum, the side wall of the right ventricle. Circumflex artery: the side wall of the the left

ventricle. The anterior artery: the anterior wall of the left ventricle and ½ anterior of the septum. In the right ventricle the veins open. The left ventricle: at the level of the right and left semilunar valves is the origin of the coronary arteries. The veins are organized in a superficial and a deep system. The heart is innervated by parasympathetic and sympathetic fibers.The lymphatic drainage is assured by 3 plexus in the thracheobronchial and mediastinal lymph. It is important to understand the heart rapport with the spinal column, the ribs and back muscles. For the left ventricle, is projected at the T8-T9 level, the right auricle is projected at the second rib cartilage, the left one at the level of the third rib cartilage.

Conclusion: It is important to know the vascularization and innervation of the heart at clinical level and at surgical level. In cases of disorders of this system we can detect pathologies.

Keywords: Cord, vessels, nerves, column spine, back muscles

9. THE RELATIONSHIP BETWEEN RENAL VASCULATURE AND SURFACE ANATOMY

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Introduction: Kidney anatomy variations and malformation present an important field of study for fundamental as well as clinical sciences. The renal parenchyma along with its vascular supply has a tight embryological and developmental relationship. Renal fetal lobulation is considered as a rare variation of development. But the frequency of this anomaly is higher and can be associated with vascular variations. The presence of vascular variations can cause alteration in kidney circulation resulting in lobulated appearance of the kidney.

Purpose and Objectives: The purpose of the study is to show that fetal lobulation is a more frequent structural variation and is usually associated with vascular developmental changes.

Material and Methods: The study was performed using macroscopic dissection of 48 kidneys along with their vessels. The acquired data were analyzed using Statistical Package for the Social Sciences.

Results: Renal vascular anomalies are quite frequent but they are rarely accompanied by changes in the organ. The frequency of fetal lobulation is 0,5-1% in the current data. Our results indicate that this normally can be encountered much more often. Out of the 48 kidneys 13 had some degree of fetal lobulation on their surface representing 27.09% of cases. From 13 kidneys bilateral fetal lobulation was identified in 8 (61.5%), 5 kidneys had unilateral lobulation (38.5%). 9 kidneys (69.23%) had variations in the development of blood vessels, from which 6 specimens had a superior polar artery, 1 specimen - presegmental branching of the renal artery, 2 specimens had two renal arteries.

Conclusion: Fetal lobulation is a more frequent variation of development than it is usually described in the literature. Our data indicates that quite often (69.23%) fetal lobulation is accompanied by some degree of vascular variation of development which can be polar or additional arteries as well as presegmented branching of the renal artery. This knowledge can be useful in different diagnostic procedures in order to determine the possibility of vascular anomalies as well as other changes in the excretory system.

Keywords: Renal morphology, renal vasculature, renal fetal lobulation

10. STEM CELLS FROM THE AMNIOTIC FLUID , CHARACTERISTICS OF PROLIFERATION AND DIFFERENTIATION.

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Introduction: Regenerative medicine has as a basis the study of stem cells and is one of the newest branches of contemporary medicine.It revolutionizes and lengthens life expectancy but directly and point out the quality. Stem cells are non-differentiated cells or non-specialised and have