Inadequate decrease at blood PTH level after removing abnormal gland indicates presence of additional hyperfunctioning gland/s. Surgery is stopped after the obtaining targeted PTH value. Postoperative hypocalcemia can be predicted after thyroidectomy. PTH level close to zero is the indication for parathyroid auto-implantation. It is useful for distinguishing parathyroid and non-parathyroid tissues during Surgery. Proper application of ioPTH monitoring into minimal invasive parathyroidectomy has been resulted in highly accurate and equal outcomes in comparison with BNE. Several ioPTH monitoring protocols have been suggested for predicting surgical outcomes. Miami criteria is the most common used one: PTH sampling is performed at 4 time points: pre-skin-incision, pre-gland-excision, 5 minutes post-gland-excision, 10 minutes post-gland-excision. When the PTH value at 10 minutes post-gland-excision decreases >50 percent from the baseline level, surgery can be stopped without further neck exploration. Unless, the surgeon can repeat the PTH level at 20 minutes or exploration is continued to other glands. Although, there is no standart protocol, ioPTH monitoring is used for hereditier forms of PHPT and renal hyperparathyroidism. However, blood sampling is generally performed 30 mins after complete resection of hyperfunctioning glands.

D-07
INTRAOPERATIVE BIOMARKERS
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POC testing devices, which provide easy and quick test results for each patient, are regularly improved in recent years. Among point of care tests, the use of tests has been considerably increased for the purpose of providing critical information quickly and thus be helpful to the patient during operations performed to the patient (intra-operative) or diagnostic procedure ran over the patient (infra-procedural). Intraoperative parathyroid hormone (ioPTH) is the most frequently used method, and accordingly such method is very useful for predicting postoperative parathyroid hormone (PTH) level and surgical outcome. The method of the ioPTH analysis is similar to the method of PTH analysis; however, its analysis period has been considerably shortened. Feedback regarding the success of the operation can be immediately received. Accordingly, this avoids repetitive operations in the future.

D-08
ENDOCRINE DISRUPTORS
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Endocrine disruptors are compounds that generally man-made and may interfere with the body’s endocrine and other systems. Humans and other organisms are exposed daily to these compounds because they are in our everyday life. Endocrine disruptors are found in the pesticides, herbicides, fungicides, metals, additives, contaminants in food, and personal care products, cosmetics, shampoos, conditioners, hair styling gels, foundations, facial masks, skin creams, deodorants used in the manufacture of some clear plastics (e.g. baby feeding bottles), many medical materials, dialysis machine and dialysate cartridges, toys and buildings, windows, all around everywhere. However, endocrine disruptors may have harmful effects on health. Two years ago the World Health Organization (WHO) has confirmed that human exposure can occur via various ways such as the ingestion of food, dust and water, inhalation of gases and particles in the air, and skin contact. The effects of endocrine disruptors of our body may be either low toxic from acute (short-term) and chronic (long-term) exposures produce developmental malformations, reproductive, neurological, immune effects, obesity, increased cancer risk and cause death in the laboratory experimental animals. The aim of our study was to assess and compare adverse effects of various endocrine disruptors in various doses on prepubertal, pubertal and adult male and female rats. We are measuring various parameters such as: body and tissue weight, histopathological changes, trace elements and minerals and various enzyme activities to understand basic effects of endocrine disruptors.

D-09
FUTURE OF MEDICINE; NEW GENERATION DOCTORS
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Nowadays it is possible to access the database at any time and anywhere. The rapid development of interaction between user and computer systems in the technology of communication, reveals the need for intelligent ecosystems. A system that links every person, every work, each service, every tool to each other with sensor networks, intelligent objects, algorithms always in every context: The objects of the Internet (IoT) are transformed into the internet of everything. Equipped with new / next generation technologies, IoT is an approach that will affect the whole business world and it can be expressed that the intelligent devices and objects are defined one by one in the internet infrastructure and these devices are connected with each other. Such a system in which any data can be retrieved from anywhere at any time, real-time, or in which different data can be collected and analyzed over time, can provide effective solutions in the field of health. Electronic health records, mobile health applications (mHealth etc), data flowing from wearable technologies constitute important inputs of the health data system. USS National Health System, MHRIS Center Physician Appointment System, SSBS Sportsman Health Information System, KKDS Clinical Decision Support System, EBDS Electronic Document Management System, İKDS Drug Decision Support System, HRMS Human Resources Management System, KHYS Chronic Disease Management System, E-pulse Personal Health System, Teletip (phonemed) System, ESIS Barrier-Free Health Communication System, AHBS Family Medicine Information System, HSBS Public Health Information System are electronic health platforms used today in our country. Information technologies are utilized in many areas such as health policy production and management, hospital management, clinical research, preventive medicine approaches, drug use analysis, frauds for health records and assurance systems, community health analysis, risk management, patient relationship management, health coaching. In addition to management approaches, information-processing technologies and the internet have facilitated the evolution of medicine after the perception of “healer doctor” and with the 1900s microbiology theory of medicine, called the second stage of medicine, and the phase of better health care towards the 3rd stage: the molecular medicine in which medicine bends atoms, molecules and genes period. Biotechnology derives from genomics, tissue engineering, human body shop, stem cell, cloning, gene therapy are no longer considered as science-fiction films. How a human resource, that is, a health worker and a physician of such transformation should be, and what characteristics should be carried out? The study focuses on this issue.

D-10
DIABETES MELLITUS AND CANCER
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Epidemiologic data suggest that T2DM (Type 2 Diabetes Mellitus) is associated with an increased incidence and mortality from many cancers. Obesity and T2DM triggers carcinogenesis via altering endocrine microenvironment. Pro-tumorigenic molecules mediating this process are listed as, insulin, insulin-like growth factor-1 (IGF-1), leptin, adiponectin, and inflammatory cytokines (e.g. IL-6 and TNF alpha). Specifically, insulin and IGF-1 bind to their respective cell surface receptors and activate the PI3K/Akt/mTOR and Ras/Raf/MAPK pathways. Insulin and IGF-1 stimulation promote tumorigenesis via mitogenic, antiapoptotic and proangiogenic effects. Leptin has proliferative and proangiogenic potential in target tissue while adiponectin is a proapoptotic and antiangiogenic molecule. Increase in leptin/adiponectin ratio is critical in neoplastic transformation. Finally,
Obesity related insulin elevation causes lowered steroid-hormone-binding globulin (SHBG) level. Decreased SHBG leads to increased free estradiol and androgens and these hormones are then available to stimulate the growth of estrogen and androgen receptor expressing breast and prostate cancers.

D-11 BIOCHEMISTRY OF METABOLIC SYNDROME AND EXPERIMENTAL ANIMAL MODELS

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Increases in metabolic syndrome incidence depending on dietary habits are observed in recent years. Role of fructose containing drinks in the increase of metabolic syndrome incidence is inevitable. For this reason fructose induced metabolic syndrome models are generated in order to reveal the underlying mechanisms of metabolic syndrome and to develop treatment models. Hence, I will try to express the metabolic syndrome models and the formation biochemistry of metabolic syndromes in the light of current knowledge in this presentation.

D-12 THE BIOMARKERS OF OSTEOPOROSIS AND METABOLIC BONE DISEASE

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Osteoporosis is a chronic disease and increases the risk of fragility fractures which is a very important social and economic problem in many countries of the world. Early diagnosis of reduced bone mass or osteoporosis and fracture prevention treatment is important. An ideal examination of diagnosis and follow-up method of osteoporosis should indicate both loss of bone mass and fracture risk. Biochemical markers of bone turnover are non-invasive and efficient tool to evaluate bone diseases. Osteoelastic and osteoclastic ratio of bone matrix can be detected by either measuring leading active enzymes of bone forming and resorbing cells or measuring bone matrix components which released to circulation during bone remodelling. These markers have advantages in bone cycle such as being unexpensive, non-invasive, reusable and to be able to show bone cell activity. But the disadvantages of these markers are inequality of sensitivity and specificity and lack of full research of some markers. As a result, in this speech we plan to make an assessment about bone biomarkers which is used to measure drug efficacy only to help bone mineral density in studies, is seen in articles about bone, is measured almost only for research, doesn’t exist in routine laboratory tests and is reached only by some academic personnel.

D-13 LABORATORY OVERVIEW OF BONE MARKERS

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Bone remodeling is characterized by temporal and spatial coupling of bone formation and resorption that is necessary for normal bone structure maintenance and skeletal growth. A wide range of biochemical markers provide information on bone cells known as bone turnover markers (BTM) which can be divided as markers of bone resorption and formation. The measurement of BTM can reflect either enzymatic activities characteristic of the bone-forming (alkaline phosphatase), or resorbing cells or bone matrix components released into circulation during resorption (collagen type I telopeptides). Although different assays for many markers have been adapted to automated biochemical analyzers making them rapid and cost-effective in clinical laboratories, none of the currently available bone markers have shown to be advantageous over others with regard to their clinical utility. The recent report of Joint Working Group of International Foundation of Osteoporosis (IOF) and International Federation of Clinical Chemistry on Standardization of Bone Turnover Markers recommend; one bone formation marker (serum PINP) and one bone resorption marker (serum CTx) to be measured by standardized assays for the prediction of fracture risk and monitoring of osteoporosis treatment in adults. To addresses the limitations of variability IOF and National Bone Health Alliance have implemented different complimentary activities around the harmonization and the use of all BTMs. However all those traditional BTMs have been used for years to decide the fracture risk prediction and largely for treatment monitoring that show earlier changes following the beginning of treatment allowing useful measurements to be observed about 1 to 3 months. Nowadays there has been a new approach which bases on our understanding of bone metabolism. Related with that peristin, cathepsin-K, sclerostin, dkkopf-1, RANKL, FGF-23/klotho/osteocalcin, sfringize-1-phosphate and microRNAs are considered as new biomarkers. Also the clinical use of those biochemical markers has not been fully established, their relationship with fracture risk has still have question marks and their use as treatment monitoring tools needs to be studied. Why we are working on them, as all those new mentioned markers can tell us about the osteocyte activities and distinguish the bone compartments that they might be helpful for exploring the physiological and pathological links between the bone and other organs, and to monitor systemic diseases.

D-14 EFFECT OF EXERCISE ON LABORATORY RESULTS IN OSTEOPOROSIS

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Osteoporosis is an ostemembratic disease which increases the risk of fracture and impairs bone quality and microarchitecture of the bone tissue is characterized by the loss of bone mass. Although osteoporosis has different classifications based on the age of a person, localization of the disorder, bone tissue involved, etiology and histological appearance, it is increasingly becoming widespread in both females and males. Although sex hormones are often reported to be effective in the development of osteoporosis, menopause and lack of physical activity are also important risk factors. Physical activity affects the bone structure by mechanical forces directly, and by hormonal factors indirectly. Mechanical forces lead to the preservation of bone mass during a physical activity by activating ground reaction forces with the contractile activity of the muscles. It is important to maintain bone health through appropriate exercise approaches, in which the type, density, frequency, and length of the activity are adjusted. Exercise activates osteocytes which lead to the release of growth factors and cytokines, resulting in increased osteoblastic activity. The measurement of bone biomarkers is important in identifying the responses of bone cells to exercise. Serum bone alkaline phosphatase (B-ALP) and serum osteocalcin indicate new syntheses in bone. After appropriate exercise, biochemical markers increase significantly. Long-term moderate intensity exercise affects the production of osteoclastogenic and antiosteoclastogenic cytokines by promoting the formation of peripheral blood mononuclear cells. Exercise exerts its effect by changing the balance between osteoclastogenic cytokines and antiosteoclastogenic cytokines. With the formation of hemopoietic cells around the bone, similar changes occur at the micro level. These affect osteoclasts which promote bone resorption, osteoblasts which are responsible for bone formation and autogenesis by producing bone-loader signals. Bone biomarkers indicate that exercise plays an important role in bone health.