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Career	○ **Assistant Lecturer**	○ **Lecturer**	○ **Assistant Professor**	○ **Professor**
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Thesis Title	**DIARRHEAL DISEASE AMONG CHILDREN FROM NINE TO TWENTY FOUR MONTHS OF AGE IN REGARD TO ROTA VIRUS VACCINATION IN SAMPLE FROM BAGHDAD / AL-RUSAFA**			
Year	**2014**			
Abstract	**Background: Diarrheal disease is the second leading cause of death in children under 5 years old; therefore WHO recommended Rota virus vaccine to be included in the national immunization program. Objective: The purpose of this study was to find out the characteristics of diarrhea after implementation of Rota virus vaccine and to demonstrate factors of diarrhea and its relation to immunization status of child. Methodology: This cross-sectional study included 230 children attended PHC centers during period of four months (from the 1 of September to the 31 of December 2013) and diagnosed by general or family physician as case of acute gastroenteritis. Child with known cause of chronic diarrhea or bloody diarrhea was excluded. After the administration of questionnaire to the care takers of the children, examination of general condition to assess the degree of dehydration was performed. Demographic data of children, their parents, feeding pattern, diarrhea and related symptoms, degree of dehydration, past medical history, and vaccination status were evaluated. Statistical analysis was performed using chi-square test. Results: This study found 53% of children had full doses of Rota virus vaccine, while 47% had not or incompleted vaccination. Age of children 20-24**			

	months, working mothers, less previous diarrheal attacks, less admission to hospital due to diarrhea, less severity of dehydration were found to be significantly related to vaccination with Rota virus vaccine. **Conclusions: Rota virus vaccine had a significant role in decreasing the severity of dehydration, diarrheal attacks, and admissions to hospital due to diarrhea.**

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	○ **Master**		● **PhD**	
Thesis Title	***Bone Turnover Markers (BTM) , Vitamin D Levels (Vit D) , Bone Mineral Density (BMD) and disease activity in Patients With Ankylosing Spondylitis (AS) on Infliximab Therap***			
Year	**2014**			
Abstract	***Background:*** **Ankylosing spondylitis (AS) is a chronic inflammatory disease of the axial skeleton, with variable involvement of peripheral joints and nonarticular structures. In severe cases, it can eventually cause complete fusion and rigidity of the spine . There is no cure for AS, although treatments and medications can reduce symptoms and pain.** ***Objectives:*** **1 - To assesse AS – relation to osteoporosis by investigating the Bone Mineral Density (BMD) , Bone Turnover Markers (BTM) , Vit D and clinical assessment of disease activity .** **2 - To identify parameters that are related to low BMD (osteopenia or osteoporosis) in AS patients with active disease.** **3 - To study the impact of infliximab used as a biologic TNF-α blocker .*Subjects and Methods:*** **- Eighty five AS patients male were enrolled in this study with a mean ± SD of age 36 ± 41 years & age range from 16-56 years , during the period from April 2013 to September 2013, they were attending the out-patient clinic in Medical city – Baghdad Teaching Hospital – Rheumatology** **They were categorized into three groups after clinical examination and BMD assessment by dual energy x-ray obsorptiometry (DXA) and according to WHO classification. Group 1 included twenty two patients with ankylosing spondylitis without treatment with Tumor Necrosis Factor – α blocker Infliximab . Group 2 included thirty four patients with (1 - 2) doses of the TNF-α blocker . Group 3 represents twenty nine patients with (3 - 7) doses of the TNF-α blocker .** **Serum bone alkaline phosphates , serum osteocalcin , procollagen type 1, bone sialoprotein , Tartrate-resistant acid phosphatase, and 25 – hydroxy vitamin D3 (25OHD3) Calcifediol levels , all were measured by enzyme- linked immunosorbent assay (ELISA) technique kits.**			

All patients were subjected to the questionnaire , to asses Bath Ankylosing Spondylitis Function Index (BASFI) , patients were asked 10 equations to indicate their ability to do some activities .

Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) had been assessed by asked the patients who taking infliximab about the dose to indicate the effectiveness of its medication in relieving the symptoms.

ANOVA one way analysis of variance was applied to compare differences between groups and within groups. All data were given as mean ± standard deviation (SD). P < 0.05 considered statistically significant .

Pearson's correlation (correlation coefficient) test was used to describe the association between the different studied parameters , p < 0.05 was statistically significant.

***Results*:**

A significant decrease in mean ± SD level of Bone Alkaline Phosphatase (BALP) in serum of patients in G3 (142.14 ± 4.68 ng/ml , p < 0.05 level) compared with mean ± SD serum level of Bone Alkaline Phosphatase (BALP) in G1(167.10 ± 10.37 ng/ml) , and a non significant decrease of mean ± SD serum level of BALP in G2 (154.08 ± 6.40 ng/ml , p = 0.205) compared with mean ± SD serum level of BALP in G1 (167.10 ± 10.37 ng/ml) .

There is a highly significant elevation in mean ± SD serum level of osteocalcin in G2 & G3 (4.94 ± 1.21 ng/ml , 11.10 ± 1.94 ng/ml , p < 0.001) compared with mean ± SD serum level of it in G1 (2.72 ± 1.25 ng/ml).

A highly significant decrease in mean ± SD serum level of procollagen type 1 in G3 (121.65 ± 4.26 pg/ml , p < 0.001) compared with it mean ± SD serum level in G1 and G2 (167.85 ± 9.28 pg/ml , 154.17 ± 6.12 pg/ml) respectively . In addition there was a non significant decrease in mean ± SD serum level of procollagen type 1 in G2 (154.17 ± 6.12 pg/ml , p = 0.149) compared with it mean ± SD serum level in G1 (167.85 ± 9.28 pg/ml).

A non significant decrease in mean ± SD serum level of sialoprotein in G2 & G3 (5.96 ± 1.29 ng/ml , p = 0.609 , 5.52 ± 1.14 ng/ml , p = 0.481) respectively compared with it in G1 (6.98 ± 1.75 ng/ml).

There was a highly significant decrease in mean ± SD serum level of tartrate resistant acid phosphatase in G2 & G3 (2.93 ± 4.67 mIU/ml , 1.89 ± 1.61 mIU/ml , p < 0.001) respectively compared with it in G1 (10.91 ± 7.13 mIU/ml) .

There was a non significant increase in mean ± SD serum level of vitamin D3 in G2 & G3 (24.26 ± 16.51 ng/ml , p = 0.914 , 24.28 ± 16.16 ng/ml , p = 0.912) respectively compared with it in G1 (23.79 ± 14.00 ng/ml).

There was a highly significant decrease in mean ± SD of BASFI &

BASDAI in G2 & G3 (5.87 ± 1.13 , 3.34 ± 0.585 , P < 0.001 , 3.34 ± 0.78 , 1.35 ± 0.66 , P < 0.001) respectively compared in G1 (7.91 ± 0.78 , 5.51 ± 0.79) .

There was a highly significant increase mean ± SD of Bone Mineral Density (BMD) of Lumbar Spine (LS) in G2 & G3 (- 0.80 ± 0.39 , 3.19 ± 0.91 , P < 0.001) respectively compared with that in G1 (- 1.63 ± 0.32) .

There was a highly significant increase mean ± SD of BMD of Hip in G2 & G3 (- 0.77 ± 0.38 , - 0.06 ± 0.62 , P < 0.001) compared with that in G1 (- 1.49 ± 0.81) .

BALP showed a high negative significant correlation with serum level of osteocalcin (r = - 0.708 , p < 0.001) and with BMD of (LS) and (Hip) (r = - 0.962 , r = - 0.908 , p < 0.001) respectively in G1. BALP showed a high positive significant correlation with serum level of procollagen type 1 (r = 0.922 , p < 0.001) in G1.

Osteocalcin showed a high negative significant correlation with serum level of procollagen type 1 (r = - 0.837 , p < 0.001) and a high positive significant correlation with BMD of (Hip & LS) (r = 0. 792, r = 0.771 , p < 0.001) respectively in G1 of patients .

Conclusions:

1. **Patients with AS who received infliximab showed significant increases in BMD scores depend on longitudinal period of therapy , long term treatment with infliximab showed beneficial improvement.**
2. **Many significant correlations were observed between BMD scores of the Hip and spine and biomarkers level in serum of patients with ankylosing spondylitis .**

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	Master		**PhD**	
Thesis Title	**Immunohistochemical study of bone marrow expression of the proliferation index Ki-67 and P-53 oncogene in chronic lymphocytic leukemia and its correlation with various pathological, laboratory and clinical parameters.**			
Year	**2014**			
Abstract	**Background: several factors render chronic lymphocytic leukemia an interesting subject for study by researchers. These include marked progress in understanding the molecular biology of normal and neoplastic lymphoid cells and recent advances in molecular genetics techniques. Among molecular markers, p-53 cancer suppressor gene and Ki-67 proliferation marker have been widely studied.** **Aim: is to correlate p-53 and Ki-67 protein expression in chronic lymphocytic leukemia, as examined by immunohistochemical method, with some pathological and clinical parameters.** **Materials and methods: this is a retrospective study; whereby archival paraffin-embedded bone marrow tissue blocks along with the clinical and hematological records of fifty patients (35 males and 15 females), with chronic lymphocytic leukemia and twenty controls were obtained from the Department of Hematology of the Medical City Teaching Laboratories in the period from April 2012 to April 2014. P-53 and Ki-67 were studied by immunohistochemical staining.** **Results: the frequency of p-53 positive patients in the study group was 16% (8 of 60 cases). Patients with high score for p-53 were more frequently and significantly associated with high-risk clinical stage than patients with low score. There was a significant direct positive correlation between increasing scores of p53-positive chronic lymphocytic leukemia cells and advancing clinical stage of the disease. The frequency of Ki-67 positive patients in the study group was 28 % (14 0f 60 cases). No correlations were found between Ki-67 scores and the clinical stage of the disease.** **Conclusion: although p-53 alteration may occur early in the course of the disease, as shown by the p-53 positivity in a proportion of patients in low and intermediate-risk stage of the disease, the highest frequency**			

	p-53-positive cells, has been observed in high-risk stage of the disease. Therefore, p-53 score is an important poor prognostic variable in patients with chronic lymphocytic leukemia. **No correlation was found between Ki-67 positivity and the clinical stage of the disease.**

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Thesis Title	**Association Studies Between Myokines and Molecular Genotypes of Alcohol Dehydrogenase in Iraqi Alcoholism Academic Years 2011 – 2014**		
Year	**2014**		
Abstract	**involving a complex gene-with –gene and gene with environment interaction.Alcohol affects every body systems causing wide range of health problems ,including Poor nutrition ,memory disorders ,difficulty with balance and walking ,liver disease (including Cirrhosis and hepatitis),nonsustained high blood pressure,anemia clotting disorder ,reduce immunity to Alcoholism belived to be a multifactorial ,polygenic disorder infection ,low blood sugar ,high blood fat content, gastrointestinal inflammatory and muscle weakness (including heart).**		

	Nearly half of high doses chronic alcohol consumers develop alcoholic skeletal myopathy .The pathogenic mechanismes are:- **1)chronic alcohol abuse causes reduction in muscle mass specially type II fiber atrophy ,by decreased the number of ribosomes and inhibited of the intiation complex in the translation processes .** **2) Oxidative stress, increased free radical production or decreased activity of antioxidants, impaired free fatty acids and increased lipid peroxidation , muscular membrane alteration ,and alterations in structural proteins DNA, RNA and protein synthesis.** **3)the role of acetaldehyde ,which interacted with proteins ,DNAand form adducts prevent protein secretion and cause enlargement of liver (hepatomegaly).** **Some myokines like Inter leukine-15(IL-15) and Tumer necrosis factor-alpha(TNF-α) were investigated in serum of 140 Iraqi men (70) alcoholic and (70) non alcoholic, living in Baghdad city, by enzyme linked immunosorbent assay (ELISA). Level of IL-15 was higher in alcoholic(59.01±11.09 pg/ml) than in non alcoholic (34.92±9.03 pg/ml).IL-15 was highly expressed in skelatel muscle due to high physical activity of alcoholic compared with nonalcoholic .IL-15 exerts anabolic effect, increased protein synthesis and decreased protein breakdown, it opposite the effect of TNF-α, but it does not overcome the effects of alcohol and its toxic metabolites.** **TNF-α, a pro-inflammatory cytokine was higher in alcoholic(83.42 ±10.12 pg/ml) than nonalcoholic (41.68±15.74 pg/ml) due to liver damage causing by ethanol and toxic metabolite acetaldehyde, this cytokine promotes apoptosis and necrosis process .** **There was a significant correlations between IL-15, TNF-α and the quantity of alcohol consumed (g/day) ,duration of intake(by year) ,AST/ALT ratio(medical marker of alcoholic liver disease),GGT, and CK.** **Alcohol metabolism is one of the biological determinants, that can significantly influence drinking behavior and development of alcoholism ,most alcohol elimination occurs in liver by oxidation to acetaldehyde and acetate, catalyzed by alcohol dehydrogenase and aldehyde dehydrogenase both of them exhibit genetic polymorphism and ethnic variation.** **The variants alleles ADH2*2 and ADH3*1 ,which encoded high activity ADH isoforms protect against alcoholism in East asian(orient people),to investigate the type of variant in Iraqi people ,and their role in alcoholism, genotype of samples show that ADH3*1/3*2 was the most common in alcoholic(43%) and nonalcoholic(37%) and the ADH2*2was (33%) in alcoholic and(50%) in nonalcoholic, ADH3*1,was (24%) in alcoholic and (37%) in nonalcoholic ,while ADH2*1 was(67%) in alcoholic and(50%) innonalcoholic, ADH3*2,the low active alleles, were higher in alcoholic(33%) than nonalcoholic(26%) .**

	In conclusion the ADH2*2 the active allele in ADH2 genotype plays a major role in the risk of alcoholism , while ADH3*1 also the active allele in ADH3 plays a minor role.

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Thesis Title	**Workplace Violence against Physicians and Health Care Providers in Baquba Teaching Hospital in 2014**			
Year	**2014**			
Abstract	**The study showed that 53.6% of the participants have experienced at least one type of workplace violence in the past 6 months. Despite some differences in the definition of violence, targeted professional groups, and methodology used, this rate was lower than most of other regional and international studies. (India 87.2%; Turkey 85.2%; Palestine 80.4%; Hong Kong 80%; Saudi Arabia 67.4%; Jordan 55.5% ; Switzerland 50.5%) [١٠, 41- 46] .** **In general, health workers in the Baquba Teaching Hospital had lower rate of exposure to both physical (13.6%) and verbal abuse (49.5%) than most of other country studies . For physical attack , Turkey 41.1% ; India 30.2% ; Iran 27.6%; Hong Kong 18%; Switzerland 16.9% ; Lebanon 6%). For verbal abuse , Iran 87.4% ; Turkey 79.6% ; Hong Kong 73% ; India 57%; Switzerland 45.9% ; Lebanon 41%). With recurrence rate of 42.4 % in physical violence and 48.5 % in verbal abuse. Thus verbal abuse occurs more often than physical violence [١٠,41,43, 46 - 48] .** **In this study, physicians were more exposed to violence than nurses with fewer occurrences in allied health professions (AHP). This was incomparable to other studies in which nurses were more likely to be exposed to violence [44, 46, 49-51] .** **Culturally the image of a physician ability in the Iraqi society is overstated and unlimited, for this reason patients and relatives may hold higher expectations from physicians and dissatisfaction with health care can expose physicians to aggression more than other health care team members.** **Males in the current study had higher rates of violent events compared to females. This was comparable to other studies which also reported**			

	that males were more likely to report both types of abuse physically and emotionally [42, 44, 46, 47,49, 50, 52, 53] . **The more age or the more experience strengthen the communication skill which in turn gave preventive role in violent accidents, but this study have shown that violence is equally distributed among the participants, regardless of age or experience compared to other studies where less experienced personnel were more likely to suffer an episode of violence [41, 42, 44,45 ,47, 54] .** **The rate of experiencing abuse was higher among staff who worked in emergency departments .Factors such as patient pain and discomfort, family member stress due to the patient's condition and fear of the unknown fate might increase emotional tension among the patients and their relatives in emergency departments.** **In addition, the frequency of abuse is greater towards doctors and nurses who perform the first treatment on patients than towards other staff who care for the same patients later on.** **This study showed that most violence occurred during the 24hour shift. This result may be due to over contact in patients in this shift, and to the exhaustion caused by prolonged time of work in away affected the efficiency of communication skills, actually 24 hour shift affect the tolerance (physical) and resilience (psychological) of the staff . The main source of physical violence was security forces (60.6%) and patient relatives (31.3%), and in verbal abuse the rate was patient relatives (65%) and security forces (18.1%) with little role of the patient in violence accidents.** **Different results were found in many other studies in which the patients and their relatives were frequently the main source of violence whether physical or verbal [42 - 53 , ٥٥] .** **The security forces as a source of violence is one of the important finding in this study , The reason is that the security forces in Iraq were formed by wrong standards that made it unprofessional , undisciplined and Ignorant in human rights [56] . In addition, the absence of military hospitals for military patients increased the violence in the public hospitals by the security forces[57]. This may explain that one third of the cases of physical violence in this study were associated with weapon use and 20.2% of the cases ended with physical injury.** **Violence reporting level was low in this study (31.3 % in physical violence and only 12.5% in verbal abuse), which is consistent with the high rates of underreporting identified in other studies [42 ,44 - 49, 51,52, ٥٥] .** **The respondents attributed their reluctance to report to the lack of clear procedures for reporting and management encouragement to report and the majority of staff accepted the presence of abuse as a feature of their occupation and believed that reporting would be time-consuming and useless.**

	Regarding threat, 24.8% of the respondents were experienced threatening behavior which was slightly higher in comparison to rates in other studies in Arab countries , Jordan 22.1% ; Palestine 19.6% ; Egypt 19% [42, 45 , 52]. **The main threatened source was from patient relatives (53.9%) and from security forces (25.5%), the tribal threat was also present but in small rate 8.9%. However, exposure to threatened behavior in general was nearly equal among physician and nurses and less in AHP.** **The staff who worked in 24 hour shift were more liable than others to threat and most threatened behavior occurred in special care units and emergency room with least in supportive service units. The large number of visitors and the lack of a mechanism to organize visits lead to increased contact with the patients' relatives who tried to show care to their patients and intervene in the treatment strategy which creates a tense environment with medical staff.** **In spite of that notification rate of threatened behavior was 49.4%, but 80% of those who made notification were not satisfied with hospital measures. These percentages of lack conviction results explained the victims refrain from reporting to the administration. The widespread violence ,corruption and tribal justice are considered additional factors for underreporting .** **Threat have been identified as leading cause to increased stress for victims, higher numbers of mistakes and contributing to a decreased sense of relaxation/well-being in the job setting and decreased efficiency of services provided to the patient [58] , as well as low morale and job satisfaction [59].** **Impacts and reactions of staff about the phenomenon of violence had varied depending on the type of violence experienced whether physical or psychological . Distress was reported by the majority of staff following experience of verbal and physical abuse, but unfortunately about one-fifth of them think of leaving their job or migrate which represent the worse impact from the economic view [60].** **In addition to distress which has a negative impact on the performance of the health worker , the desire to change the place of work or move to another hospital or even leave the job, may lead in the future to a shortage of specialized personnel[61].** **Therefore, the decision-makers must seriously consider the problem of violence as the country already suffering from a lack of medical staff [57,62] .** **Participants were asked an open ended question about the contributing factors to violence .The analysis of participants' answers, in regard the causes of violence, shows that most participants believe that the reasons go back to the wrong way in the administration, and the absence of public awareness, which also explains the views of the participants in the prevention methods .** **Therefore, the participants believe that the promotion of public**

	awareness and correct the mistakes of the administration is the most important ways that provide a solution to the problem of violence . **Study limitations: This study is the first investigation of WPV against Health Care providers in the general hospital setting in Baquba and is one of the few studies relating individual and organizational factors to WPV.** **That study was not specific with regard to the type of the violence or the target individuals because there was no previous studies about the workplace violence in medical field in Diyala . Another limitation was the desire to unshare the private information about the experience of violence which may had affected on the participants response in a negative way .**

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Thesis Title	***The effect of Domestic violence on women in Nineveh city.***			
Year	**2014**			
Abstract	**Background: Violence is considered as an important public health problem. For women, violence perpetrated within relationships that are supposed to involve care and protection is a much more serious problem than violence perpetrated by strangers.** **Objectives: To assess the domestic violence against women in Nineveh city, and the consequences of domestic violence on general health of women.** **Patients and Methods: This cross sectional study, conducted from April 2013 to August 2013,randum sample of 300 participants were surveyed .The sample selected by feasible way during their visit to primary health centers in Nineveh city.** **Results: A total 300 women were included in this study as their residency were Nineveh city .Their age was 17-60 years(35.5-10.6).All cases were Muslims(300;100%),Arabic (274; 91.3) and married (207; 69%).Most of participant were complained from domestic violence to some extents as 14% of them had an argument in their family, 40% argument between her and her husband, 14% has an arguments ever turned into a physical fight between her and her husband,62% afraid from her husband, 14% her husband was threatened to hurt her, 20% were left her husband, or tried to leave, because of domestic violence, 46% had an argument between her and her husband in front of their children .All women (100%) in this study had experience of exposure to traumatic events . They exposed to different numbers of traumatic events. The most**			

common trauma events reported by participants was murder or violent deaths of friend (300;100%).The second common traumatic events was watch violent events (i.e. bombing, killing) through media VI (168;56%).Present while someone searched for people or things in your home (114;38%),witnessed by yourself shelling, burning, or razing of residential areas(102;34%),searched yourself (102;34%), witnessed murder(90;30%) and exposed to explosion, artillery fire, shelling, or landmine(60;20%).Fifty four women(9.3%) reported smoking. Most of participant had mood or anxiety disorders. Forty four percent were very sad,24% were irritable or in a bad mood, 41.3% feel hopeless about the future, 34.3% feel like not eating,,48% feel like eating more than usual,36% sleep more than usual, 35% sleep a lot less than usual and 64% have difficulty concentration on their study. Two hundred forty women (80%) afraid a lot of the time without serious cause, 58% (174 women) afraid to try new things ,57% (171 women) worry about what other people think of them , 56%(168 women) worry about what others might say about them and 28% (84 women) worry a lot that other people might not like them .

Conclusions: **There is a high prevalence of domestic violence against women ,all forms of this violence (emotional ,physical ,sexual,…etc)lead to many consequences on women's health.**

***Key words*; violence, post traumatic stress disorder, traumatic events.**

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Thesis Title	**Load/Deflection Characteristics and Force Levels of Coated Nickel Titanium Orthodontic Archwires (An in Vitro Study)**			
Year	**2015**			
Abstract	Coated archwires have been introduced to improve esthetics during orthodontic treatment. Coating the surface of orthodontic metallic wires using various techniques and materials, as well as modifying the surface of wires and brackets, are among those strategies developed to improve both mechanical and biological properties of metals used in orthodontics. The aim of this study was to evaluate and compare the load deflection characteristics and force levels of 6 brands of coated nickel titanium orthodontic archwires using palatal and gingival deflection. Ten round wires (0.016 inch) and ten rectangular wires (0.019x0.025 inch) were obtained from each of 6 brands (G&H, Opal, Ortho Technology, Dany, Hubit and Astar Companies). Self-ligating brackets were bonded to a readymade dental arch model to test the wires under restrained condition. Universal testing machine was used to perform the modified bending test using a water bath at 37°C with 2mm			

deflection in both palatal and gingival directions.
Forces generated at maximum loading and at unloading of 1.5mm and
1.0mm deflections, plateau gap and hysteresis were measured. The statistically
differences between the different brands were analyzed using ANOVA and LSD
tests.
All the wires showed hysteresis and significant differences in their load
deflection curves, but these differences were more evident in round wires than in
rectangular wires where G&H wires showed the widest loading-unloading
deflection curves. The maximum loading force of round wires in gingival
deflection were higher than by palatal deflection but it gave wider hysteresis
curves resulting in lower unloading forces.
III

Abstract
The force decline during unloading (plateau gap) ranged between 18 to
34% for round wires and 17 to 37% for rectangular wires. Generally, coated epoxy wires (G&H, Opal, Astar and Ortho Technology)
produced lower forces compared to polymer (Dany) and Teflon (Hubit) coated
round and rectangular archwire.

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Thesis Title	**Right Ventricular versus Left Ventricular Systolic and Diastolic Parameters using Tissue Doppler Echocardiography in Hypertensive patients**
Year	**2014**
Abstract	***Background:*** **Hypertension is a heterogeneous disorder with a number of well defined as well as putative etiologies. It is a major risk factor for stroke and cardiovascular diseases, and is thus associated with significant morbidity and mortality.** **Arterial systemic hypertension may determine impairment of both left ventricular diastolic and systolic function, due to increased afterload but also to changes of left ventricular geometry and structure producing left ventricular remodelling and hypertrophy.** **Also the right ventricle might be involved in this process by structural and functional abnormalities. Right ventricular chamber diastolic dysfunction has been shown in uncomplicated arterial hypertension [30, 41, 42, 43]. To date, little information is available about functional changes of right ventricular walls in arterial systemic hypertension. This issue is crucial to better understanding of the mechanisms underlying right ventricular involvement in the hypertensive heart. Pulsed tissue Doppler has been used to analyze myocardial left ventricular wall motion abnormalities in several cardiac pathologies [45-50] and also appears suitable for assessing changes of right ventricular longitudinal function due to arterial hypertension.** ***Aims*****: This study evaluates Right & Left ventricular functional and morphological changes in treated hypertensive patients using selected conventional and Tissue Doppler Echocardiographic methods, and Studies the relationship between changes in both Right & Left Ventricles of heart. Finally to determine the relationship between onset of disease and echocardiographic changes.** ***Methods and Results:*** **We selected one hundred and two treated hypertensive patients and 100 healthy age- and gender- matched controls, both study groups underwent echocardiographic examination**

	using 2D, M Mode, Pulsed Doppler and Tissue Doppler imaging. VII Examination involved left ventricular septal and posterior wall thicknesses, internal dimensions, left atrial area, ejection fraction and LV mass, also Tissue Doppler derived waves' velocities S' , e', a' and e'\a' ratio. Right ventricular internal basal diastolic dimension, free wall thickness in diastole, right atrial area, TAPSE, PASP, fractional area change(FAC), PW tricuspid inflow waves' velocities e, a, and e\a ratio, Tissue Doppler derived myocardial performance index (MPI), S', e', a', and e'\a' ratio. **Hypertensive patients had Higher than controls in: Left Ventricular walls' thicknesses, end diastolic dimension, LV mass, left atrial area, peak velocity S', a', Right Ventricular free wall thickness, Tricuspid inflow TV a wave velocity, right atrial area, PASP, TDI S' and a' waves velocities.** **Lower Values than controls in Left Ventricular TDI peak velocity of e' wave and e'\a' ratio, Right ventricular Tricuspid inflow PW e wave velocity, e\a ratio, internal diastolic dimension, TDI e' and e'\a' ratio.** **The systolic function of both ventricles was not reduced.** **The diastolic function of both left and right ventricles were impaired, the Tissue Doppler derived e'\a' ratios were strongly correlated in both ventricles.** **There was a strong correlation between LVH and both Tissue Doppler derived RV & LV diastolic dysfunction.** **By studying correlation of echocardiographic finding with disease duration there was a strong relationship with both LVH and RV tissue Doppler diastolic dysfunction.** ***Conclusion:*** **Systemic arterial hypertension causes morphological and functional changes in both ventricles, initially systolic function of LV and RV are not affected; diastolic dysfunction in LV is considered as one of the earliest functional changes, studying RV revealed diastolic dysfunction which was strongly correlated with LV diastolic dysfunction by using Tissue Doppler imaging, also with LVH were highly correlated with disease duration.**