Let me welcome you to the first issue of this medical newsletter, a new publication from the cardiac electrophysiology service at Richmond University Medical Center. Our goal is to provide a wide range of general up to date medical information. It summarizes the most significant articles that have the most clinical relevance. I hope you will find this issue beneficial.
THE ELECTROPHYSIOLOGY SERVICE AT RUMC

The Cardiac Electrophysiology Service at Richmond University Medical Center offers comprehensive care for patients with cardiac arrhythmias. We use the most advanced technology and technique to diagnose and treat the following:

- congestive heart failure
- inherited cardiomyopathy
- risk stratification for sudden cardiac death
- supraventricular tachycardia
- syncope
- dizziness
- palpitations
- atrial fibrillation
- atrial flutter
- brady arrhythmia
- long QT syndrome and other primary electrical disorders like Brugada Syndrome
- ventricular tachycardia

Programs and services offered by the Electrophysiology Lab:

- Initial consultation
- Implantable cardioverter – defibrillator
- Implantable permanent pacemakers
- Implantable loop monitors
- RF catheter ablation
- Non-invasive risk stratification for arrhythmia (EP study)
- Syncope Center
- Atrial fibrillation clinic
- Cardiac resynchronization for congestive heart failure
- Optimization for C.R.T.
- Electrical cardioversion
- Head up tilt table testing

* To make an appointment please call: 718-818-3260 or Dr. Isber’s cell phone to discuss your case: 917-921-1833
Biventricular pacing (resynchronization therapy, CRT) improves survival and dramatically reduces congestive heart failure symptoms and hospitalizations. Initially, resynchronization therapy was recommended for patients with advanced heart failure symptoms (NYHA Class III and IV), left ventricular ejection fraction of ≤ 35% and QRS duration of ≥ 130 msec. The recent MADIT-CRT trial assessed the effect of early intervention with biventricular ICD in asymptomatic or mildly symptomatic patients (NYHA Class I or II) with low ejection fraction and wide QRS duration. In this study, 1,820 patients were randomized to receive either biventricular ICD or ICD alone. At 2.4 years, the biventricular ICD group had a 34% reduction in mortality or non-fatal congestive heart failure in comparison with patients who received ICD alone. The study was terminated prematurely because of positive results. The findings indicate that implantation of biventricular ICD is justified for asymptomatic or mildly symptomatic patients with severe left ventricular dysfunction and wide QRS. N. Engl. J. Med. 2009.

Cardiac resynchronization therapy (CRT) is currently indicated for patients with congestive heart failure symptoms, wide QRS and an ejection fraction of 35% or less. However, analysis of PROSPECT trial (Predictors of response to CRT) showed a benefit of CRT for patients with an ejection fraction of > 35%. PROSPECT study is a post-market clinical study that enrolled 426 congestive heart failure patients with wide QRS duration. At six months after implant, the study showed that 63% of CRT patients with an ejection fraction of > 35% had an improved clinical response (CHF class, CHF hospitalization) and in 70% of patients with an ejection fraction of ≤ 35%. The heart size decreased (LV systolic volume) in 51% of CRT patients with an EF of >35% and in 58% of patients with an EF of ≤ 35%. Therefore, even patients with moderate LV dysfunction and an EF of >35%, will benefit from CRT. Guidelines may soon change to adapt the results of this study.
Patients with atrio-ventricular conduction disease (like complete heart block) require right ventricular pacing (RVP). However, RVP may lead to deterioration of heart function. Currently biventricular pacing (BIV-P) is not approved for patients with normal left ventricular (LV) function. To compare BIV-P with RVP in patients with bradycardia and normal LV function, researchers from China conducted the PACE (Pacing to Avoid Cardiac Enlargement) trial which included 177 patients with normal LV function and bradycardia requiring ventricular pacing. Patients were randomized to receive BIV-P or RVP. After one year of follow-up, patients with BIV-P had no significant change in LV size while patients with RVP alone developed enlargement of the LV. The LV ejection fraction was 62% with BIV-P vs. 55% with RVP. The LV end systolic volume was 28 mL vs. 36 mL respectively. These results show that BIV-P may be superior to RVP alone in patients with normal LV function.

MRI is the standard diagnostic test for soft tissue imaging and early detection of cancer and neurologic disorders. Patients with cardiac devices cannot undergo MRI because MRI can affect the function of the device and patient safety. Fifty to seventy-five percent of patients with implanted cardiac devices are expected to need an MRI scan in their lifetime. Medtronic recently announced the availability of a new generation of pacemaker system in Europe that can be used in MRI scanner. The Advisa DR MRI Surescan pacemaker is not yet approved for sale in the United States.

An ILR is a small device the size of a memory stick that continuously records a patient’s EKG onto a memory loop of about 20 minutes. The patient activates the recorder following an episode so that the prior 20 minutes of EKG recording is preserved for later assessment to search for correlation between the syncope event and arrhythmia.

The FDA advisory panel unanimously recommended approval of expanding the current cardiac resynchronization therapy (CRT) to include patients who are asymptomatic or mildly symptomatic heart failure with New York Heart Association Class I and II, LBBB and an ejection fraction of ≤35%. CRT was found by MADIT-CRT trial to slow the progression of congestive heart failure in these patients.
Some patients with atrial fibrillation are unsuitable for Warfarin treatment and others may refuse this treatment. So what alternative strategy is currently available to treat such patients? Dual antiplatelet therapy with clopidogrel and aspirin reduces the incidence of stroke in atrial fibrillation patients by 28%. This combination can be an acceptable alternative to Warfarin. ACTIVE W trial showed that clopidogrel plus ASA was less effective than Warfarin. ACTIVE A trial enrolled more than 7500 patients unsuitable for Warfarin. The results of this study showed 28% reduction in stroke risk with the addition of clopidogrel to ASA compared to placebo plus ASA.

Active W trial showed the rate of bleeding was similar in patients on Coumadin and patients who took dual antiplatelet therapy. In the ACTIVE A trial, the risk of bleeding went from 1.3% per year with ASA to 2% with clopidogrel plus ASA. Analysis of both studies showed the stroke rate with Warfarin was 1.4%, clopidogrel plus ASA was 2.4% and ASA alone was 3.3%. Therefore, Warfarin is still the treatment of choice for atrial fibrillation to prevent stroke. However, the alternative treatment with clopidogrel and ASA is an acceptable one.

Multaq (Dronedarone) is a new antiarrhythmic medication that was approved last year by the FDA for the prevention of atrial fibrillation recurrence. Multaq is a derivative of Amiodarone; it has type 3 antiarrhythmic properties without the organ toxicity associated with Amiodarone. This medication was tested in the landmark ATHENA study, the largest study ever performed with antiarrhythmic drugs in atrial fibrillation. This study included more than 4600 patients with recurrent atrial fibrillation. Multaq on top of standard therapy including beta blockers reduced the risk of cardiovascular hospitalization or death by 24% when compared to placebo. This is the only antiarrhythmic study to have ever demonstrated a positive impact on cardiovascular morbidity.

Multaq is given in a fixed dose regimen of twice daily 400 mg tablets to be taken with meals. Unlike Amiodarone, treatment with Multaq does not require a loading dose and can be initiated in an out-patient setting.

Multaq (Dronedarone) is a significant step forward in the management of atrial fibrillation. Analysis of the ATHENA trial showed that the addition of Multaq 400 mg twice a day to anti-thrombotic treatment and heart rate control reduces the risk of stroke by 34%. Compared to the group who received placebo, Multaq reduced the risk of stroke from 1.8% per year to 1.2% per year (hazard ratio 0.66). The use of Multaq is not recommended for patients with atrial fibrillation and advanced heart failure (CHF NYHA Class III and IV).
Controversy emerged regarding the age at which breast cancer screening should start. New guidelines by USPSTF (2009) recommend that average risk women begin screening mammograms at age 50 once every two years. More recently, the American College of Radiology along with the Society of breast imaging issued new guidelines. They recommend early mammograms starting at age 40 for average-risk women (normal BMI, no current use of hormones and no family history of breast cancer). What guidelines physicians should follow may be confusing! (J. Am. Coll. Radiol. 2010; 7:18).

There is a concern about the safety of oral contraceptive use in women with a family history of breast cancer. A recent review of ten studies by the WHO shed some light on this issue. The researchers compared breast cancer risk in oral contraceptive users and non-users with a family history of breast cancer. The analysis showed no association between oral contraceptive use and invasive breast cancer among women with a family history of the disease. However, 3 studies showed a higher risk among oral contraceptive users than among non-users in a specific subgroup only. The World Health Organization recommends that no restrictions be placed on oral contraceptive use in women with a family history of breast cancer. These women should be advised to start routine screening with mammography earlier than other women. Contraception 2009; 80:372.

Telomeres are DNA located at the end of the chromosomes. Shortening of telomeres leads to shorter cellular lifespan. Therefore, leukocyte telomere shortening became a marker of biological age. Omega 3 fatty acid has been associated with improved survival after myocardial infarction. However, the mechanism is unknown. The heart and soul study tried to reveal the possible mechanism for this effect. In this study that included 600 patients with stable coronary artery disease, the levels of leukocyte telomere length and omega 3 fatty acids levels were measured at baseline and at a five-year follow-up. Researchers investigated the relationship between the two over time. After 5 years, those in the lowest quartile of omega 3 fatty acid levels had the fastest rate of telomere shortening whereas, those in the highest quartile experienced the slowest rate of shortening. There was a 32% reduction in the odds of telomere shortening with each standard deviate increase in omega 3 fatty acid levels. The study findings indicate a potential anti-aging effect of omega 3 fatty acids. (JAMA 2010 303:250).
CALORIC SWEETENER CONSUMPTION WORSENS HDL CHOLESTEROL

Sixteen percent of the average daily calorie intake comes from caloric sweeteners (sucrose from cane or beets or high-fructose corn syrup). Investigators examined the relationship between added sugar and dyslipidemia in a survey of 6,000 participants. Analysis showed that adults who consume ≥ 25% of total calories as added sugar were three times more likely to have low LDL (< 50 mg/dL for women and < 40 mg/dL for men) than those whose intake of added sugar was 5% of the total calories. The mean HDL level for those who consumed less than 5% of total calories as added sugar was 58 compared with 47 for those consuming ≥ 25% of total calories as added sugar. These findings indicate that high-added sugar intake may promote atherosclerosis and that physicians should recommend reduction in refined sugar intake to < 5% of the daily calorie intake. (JAMA 2010; 303: 1490).

SEXUALLY TRANSMITTED INFECTIONS ARE PREVALENT IN ADOLESCENTS

A prior study showed that 33% of women become human papilloma virus (HPV) positive after 1 year of initiation of sexual activity. In the current study, researchers assessed the prevalence of 5 sexually transmitted infections (STI) in female adolescents using a representative sample of 833 females age 14-19. One half of the adolescents reported sexual experience. The prevalence of infection with any STI in the cohort was 25%, and 34% at age 18-19. The prevalence was 20% when one sexual partner was reported and 53% when 3 or more sexual partners were reported. The most prevalent disease was HPV. Current guidelines recommend HPV vaccine administered to girls beginning at age 11-12. (Pediatrics 2009; 124: 1505).

ANDROGEN RECEPTORS AND LIVER CANCER

Chronic hepatitis B virus (HBV) and hepatic C virus infections account for 78% of global HCC. Liver cancer is more common in men than in women with HBV infection. Researchers found that androgen receptors on the liver cells bind to a DNA sequence on HBV, increase HBV levels and help foster liver tumorigenesis. Liver tumor size was substantially inhibited in mice treated with a chemical that degrades the androgen receptors. These findings suggest that targeting the androgen receptors could be developed as a new therapy for HBV-induced liver cancer. (Sci. Transl. Med. 2010; 2[32]: 2).
Soy is known to have an estrogenic effect. Therefore, its consumption may be a concern in patients with breast cancer. The safety of dietary soy intake in patients with breast cancer was investigated in a Chinese study involving more than 5 thousand patients with breast cancer. After 4 years of follow-up, the study found that women with the highest soy intake had lower mortality and breast cancer recurrence when compared with women with the lowest soy intake. The Hazard ratio was 0.7. This study provides not only assurance about the safety of soy products (Tofu and soymilk) in patients with breast cancer, but also about its possible efficacy as an adjunctive therapy. (JAMA 2009; 302:2437)

Proton Pump Inhibitors inhibits the cytochrome p450 that converts clopidogrel to its active metabolic therapy. The concurrent use of the two may increase the cardiovascular events. The clinical significance of this interaction was assessed in a large study. This study included 18000 patients treated with clopidogrel after ACS or PCI. The rate of cardiovascular events were slightly higher in patients who were also taking PPI than patients who were not taking PPI as follows: Rate of readmission for MI: 2.6% VS. 2.1%, death: 1.5% vs. 0.9%, and revascularization 3.4% vs. 3.1%. Therefore, PPI should be used only when necessary and pantoprazole can be used instead of omprazole because of its lesser inhibiting effect on the cytochrome p450. (Circulation 2009; 120:2322).

Soy consumption is known to be beneficial for overall health. Soy Isoflavones can bind to estrogen receptors. Hence, it may have an effect on hormone-related cancers. A recent Meta analysis examined the effect of soy intake on endometrial and ovarian cancer. The study included about 170 thousand patients, 3500 patients with cancers. Women who consumed the highest amount of soy had a lower risk for these two cancers than women who consumed the lowest amount of soy, the odds ratio for endometrial cancer 0.70 and for ovarian cancer 0.52. (BJOG 2009; 116:1697).
PEOPLE WITH DEPRESSION CONSUME MORE CHOCOLATE

Is there a connection between depression and chocolate consumption? This question was the subject of a study of 931 individuals who were not on antidepressants and who provided chocolate consumption information. Mood was assessed on depression scale (CES-D). The study showed that individuals who were screened positive for depression had higher chocolate consumption (8.4 servings per month) than those who were negative for depression (5.4 servings per month). Those with major depression had still higher chocolate consumption (11.8 servings per month). These associations were seen in both men and women. Future studies should determine if chocolate has a role in depression as cause or cure. (Arch. Intern. Med. 2010; 170:699-703.)

PIPE AND CIGAR USE LEAD TO OBSTRUCTIVE LUNG DISEASE

The detrimental effect of cigarette smoking on lung function is well known. However, the effect of pipe and cigar use is not well defined. Investigators conducted a study consisting of > 3500 adults, most of whom were current or former smokers. Nine percent of them smoked pipes and 11% smoke cigars. Urine Cotinine levels were highest among current cigarette smokers. They also were elevated among pipe smokers and less so among cigar smokers compared with never smokers. Pipe or cigar smoking only (no cigarette smoking) is associated significantly with airflow obstruction (FEV1/FVC ratio lower than normal; odds ratio 2). This study showed that all forms of tobacco lead to obstructive lung disease. (Ann. Intern. Med. 2010; 152:201.)
Levonorgestrel is an effective contraceptive when taken within 3 days of sexual intercourse. Women who seek emergency contraception between 3 to 5 days can be treated with Ulipristal (a selective progesterone receptor modulator) according to a new study. This study included 1241 women who were given Ulipristal after 3 to 5 days of unprotected sexual intercourse. The rate of pregnancy was 2% and the efficacy was not affected by the length of delay. Ulipristal is approved in Europe but has not been approved in the United States. (Obstet. Gynecol. 2010; 115:257).

**PREGNANCIES DELAY DISABILITY IN MULTIPLE SCLEROSIS**

Should women with MS get pregnant? The effect of MS on disability was assessed in a recent study. This study included 330 women with MS. The primary outcome was time from disease onset to an Expanded Disability Status Scale (EDSS) score of 6. Women who gave birth after MS onset reached EDSS score of 6 significantly later in the disease course than those who did not give birth. (Median time to progression 22-23 vs. 13-15 years). So, MS does not adversely affect the mother’s health. It is important to keep the result of this study in mind when we counsel patients with MS who desire to bear a child. Such a patient should discontinue all their immunosuppressive treatments prior to conception. (J. Neurol. Neurosurg. Psychiatry 2010; 81:38).

**HPV VACCINATION DECREASES THE BURDEN OF GENITAL WARTS**

A recent study showed that human papilloma virus (HPV) quadrivalent vaccination extends beyond preventing dysplasia and cervical cancer. Vaccination has shown to decrease the genital warts in women and men. The study assessed the effect of vaccination of girls and women 26 years of age on the incidence of genital warts. The proportion of young women with the diagnosis of genital warts declined by 25% each quarter of 2008 after a nationwide vaccination in 2007 in Australia. The proportion of heterosexual men diagnosed with genital warts declined by 5% per quarter. Recently, the FDA approved the quadrivalent vaccine (Gardasil) for preventing genital warts in boys and the bivalent vaccine (Cervarix) for cervical cancer in girls. (Sex. Trans. Infect. 2009; 85:499)
What is the preferred treatment for carotid artery stenosis (CAS), carotid stenting (CS) or carotid endarterectomy (CEA). Currently, CS is approved only for patients at high risk for surgical complications. To compare both treatments, researchers conducted a large study of 1713 patients with recently symptomatic CAS who were treated with CS or CEA. An interim safety analysis at 4 months was published showing a non-significant difference in the rate of disabling stroke or death between the CS group 4% and the CEA group 3.2%. However, the incidence of primary end point (any stroke, death or myocardial infarction) was 8.5% in the CS group and 5.2% in the CEA group, a statistically significant difference. Furthermore, a subgroup study consisting of 231 patients who had pre and post procedure diffusion-weighted MRI showed new post procedure ischemic lesion in 50% of CS patients and 17% of the CEA patients. Full analysis of the study is planned at 3 years. However, the interim analysis supports CEA as the first choice for patients with symptomatic CAS who are suitable candidates for surgery. (Lancet 2010; 375:985).

**Dual Antiplatelet Therapy for Drug-Eluting Stent**

Dual antiplatelet therapy (DAPT) with clopidogrel and aspirin is recommended for drug eluting stents after implantation. Stent thrombosis after clopidogrel was observed in patients who had for at least one year. However, late discontinuation of dual therapy beyond one year was not significantly different between the two groups. 1.8% in group 1 and 1.2% in group 2. Despite the result of this study, most experts will continue to recommend prolonged DAPT for most patients who do not have contraindications. (N. Engl. J. Med. 2010; 362:1374).

**TEN PERCENT OF SUPERFICIAL VENOUS THROMBOSIS PROGRESS TO DVT**

Superficial venous thrombosis (SVT) was thought to be insignificant. Researchers assessed its risk for progression to Deep Venous Thrombosis (DVT) or pulmonary embolism (PE) in 844 patients with lower limb SVT. About 25% of the patients had DVT or pulmonary embolism at study entry. During follow-up of 3 months, about 10% developed DVT or PE despite treatment with short-term anticoagulation. Therefore, superficial venous thrombosis is not insignificant as we thought and perhaps patients should be treated and monitored to prevent thrombus extending into deep venous system. (Ann. Intern. Med. 2010; 152:218).
BARRETT’S ESOPHAGUS IS ASSOCIATED WITH AN INCREASE IN COLORECTAL CANCER RISK

Are patients with Barrett’s esophagus at higher risk for colorectal cancer? The possible association between the two was investigated in a cohort of more than 42 thousand patients with a first diagnosis of Barrett’s esophagus. After 5.6 years of follow-up, 1.7% of the cohort developed CRC. When compared with the general population, the risk for CRC was higher in Barrett’s esophagus patients with relative risk of 1.7. The highest risk was found during the first year after Barrett’s esophagus’ diagnosis with a relative risk of 4.76. Therefore, Barrett’s esophagus patients are at a higher risk for CRC. Most of the excess risk was identified by colonoscopy shortly after the diagnosis of Barrett’s esophagus. (Am. J. Gastroenterol. 2010; 105:77).

PROTON PUMP INHIBITOR DECREASES THE RISK OF CANCER IN BARRETT’S ESOPHAGUS

Barrett’s esophagus is associated with excess risk for esophageal adenocarcinoma. It is unknown if pharmacologic agents (like proton pump inhibitors, non-steroidal anti-inflammatory drugs or statin) have a protective effect against the development of esophageal cancer. The effect of these agents was investigated in a retrospective study involving 344 patients with BE. During 2620 patient years of follow-up, high-grade dysplasia (HGD) or esophageal adenocarcinoma (EAC) developed in 9.6%. Analysis showed that the use of PPI was associated with a decrease in the risk for HGD or EAC with Hazard ratio of 0.39. The use of NSAID or Aspirin was also associated with a decreased risk but to a lesser degree. However, statin was not associated with risk reduction. (Clin. Gastroenterol. Hepatol 2009; 7:1299).

TREATMENT FOR GERD: MEDICAL VS. SURGICAL

What is the optimal treatment for gastroesophageal reflux disease (GERD)? Is it the medical treatment by controlling gastric acid or the surgical treatment by correction of the anatomy (open fundoplication)? A long-term randomized medical vs. surgical treatment was conducted involving 310 patients with GERD symptoms and erosive esophagitis. Patients were randomized to either Omeprazol (20 mg or 60 mg) or surgery. After follow up of 12 years, study showed that continuous remission of GERD achieved by surgery (53%) was higher than with Omeprazol (40% in 20 mg and 45% in 60 mg). There were a high number of patients lost to follow up. Therefore, a conclusion of this study could not be reached. (Clin. Gastroenterol. Hepatol, 2009; 7:1292).
The increasing use of MRI has led to detection of clinically silent contralateral breast cancer, which may result in contralateral prophylactic mastectomy (CPM). However, does CPM improve survival? Researchers used data base of > 100,000 women who underwent mastectomy for breast cancer, of whom 8900 patents underwent CPM. After approximately one year of follow-up, patients who had CPM had lower risk for death from breast cancer than did patients who had unilateral mastectomy only. (Hazard ratio 0.63). The survival advantage of CPM occurred in women < 50 who had early Stage (I-II) receptor negative breast cancer (hazard ratio 0.68). Although the data are provocative, CPM cannot be recommended at present. A randomized trial is needed for conclusive evidence. (J. Natl. Cancer Inst. 2010; 102:401).

What is the best screening test for detection of breast cancer (BC) in high risk women (personal or family history, BRCA mutation). Different screening modalities (mammography, ultrasound and MRI) were assessed in a prospective study of 680 high-risk (≥ 20% lifetime risk of breast cancer) women (mean age 44). BRCA mutation was confirmed in 10% of women. After median follow-up of 29 months, 27 women were diagnosed with breast cancer corresponding to an overall detection rate of 15.5/1000 women-years. Cancer detection rates with ultrasound were 6/6000 and with mammography 5.4/1000 and with both tests combined 7.7/1000. However, detection rates for MRI alone were much higher 15/1000 and changed a little when combined with other modalities. These findings suggest that young women at high risk for breast cancer might consider screening with MRI alone. However, mammography continues to be the primary tool in the general population. (J. Clin. Oncol. 2010; 28:1450).
NO BENEFIT FROM INTENSIVE BLOOD PRESSURE LOWERING IN DIABETICS

It has been shown that lower blood pressure is associated with lower cardiovascular risk. However, does achieving systolic blood pressure < 120 mmHg in patients with type II diabetes lower the risk? The recent ACCORD Blood Pressure Study assessed this strategy. More than 4700 high risk diabetics with hypertension were randomized into intensive blood pressure control with target systolic blood pressure of < 120 (group 1) and standard blood pressure control with target systolic blood pressure of < 140. Group 1 required more antihypertensive drugs than group 2. The mean number of medication was 3.4 and 2.1 respectively. At 1 year, the average systolic blood pressure was 119 in group 1 and 134 in group 2. At five years, there was no difference in the death rate. The cardiovascular event rate was 1.9% per year in group 1 and 2.1% per year in group 2 with Hazard ratio 0.88. Group 1 had more serious adverse events 3.3% vs. 1.3% but stroke was significantly lower in group 1 – 0.32% vs. 0.53%. Therefore, intensive blood pressure control is not justified in the high-risk diabetic patients according to this study. (New England Journal of Medicine 2010).

FINOFIBRATE HAS NO EFFECT ON CARDIOVASCULAR EVENTS

Diabetics who have low HDL and high triglyceride levels are commonly treated with finofibrate in addition to statins. The effect of this strategy on cardiovascular outcome was assessed in the ACCORD lipid study. More than 5000 diabetics who were taking Simvastatin were randomized to receive finofibrate 160 per day vs. placebo. The triglyceride level decreased significantly in the finofibrate group. However, there was no significant difference in the cardiovascular event rates (the primary end point) between the two groups 2.2% vs. 2.4% per year with hazard ration 0.92. Therefore, finofibrate should not be used for high-risk diabetic patients. (New England Journal of Medicine 2010).

STATINS REDUCE STROKE RISK

It has been shown that statins reduce the risk for stroke. A large Meta analysis of more than quarter million patients treated with statins showed an association between stroke reduction and change in total cholesterol and LDL levels. In this study, statin treatment was associated with linear reduction in the risk for total stroke with odds ratio of 0.85 while other non-statin interventions were not associated with significant risk reduction. Each 1% reduction in total cholesterol was associated with 0.8% reduction in relative risk for stroke. Therefore, statin use may be justified for primary prevention of stroke. (J. Am. Coll. Cardiol. 2010, 55:198).
MEN ARE FROM JUPITER, WOMEN ARE FROM JUPITER

The JUPITER study provides strong evidence on the role of statin treatment in primary prevention of cardiovascular events (CVE) in women. In a planned substudy of the JUPITER trial involving 6801 women (≥ 60) with elevated high-sensitivity C-reactive protein (Hs-CRP) treated with rosuvastatin (Crestor 20 mg per day) decreased a woman’s relative risk for major CVE by 46% (vs. 42% in men) when compared to placebo. The estimated number needed to treat with rosuvastatin for 5 years to prevent a CVE was 36 (vs. 25 in men). Rosuvastatin was not associated with increased rate of cancer in men or women. However, the rate of diabetes was higher in women treated with rosuvastatin but not in men. Therefore, women with no apparent risk factors for coronary artery disease, except elevated levels of Hs-CRP, benefit significantly from treatment with Rosuvastatin. (Circulation 2010; 121:1069).

THE ELDERLY ARE FROM JUPITER TOO!

Little is known about the efficacy of statin in the primary prevention of cardiovascular events in the elderly. Secondary analysis of the Jupiter trial has provided important data about the benefit of statin in the elderly. The Jupiter trial included > 5600 elderly persons (≥ 70) with normal LDL and elevated high sensitivity C-reactive protein (≥ 2). The efficacy of Rosuvastatin vs. placebo was compared during a two-year follow up. The rate of the primary end points (myocardial infarction, stroke, revascularization, hospitalization from unstable angina or death from cardiovascular disease) occurred in 1.22 and 1.99 per 100 person-years in the Rosuvastatin and placebo respectively, (hazard ratio 0.61). Similar reductions in event rates were seen in men and women. The rate of all cause mortality was 1.6 and 2 per 100 person-years in the Rosuvastatin and placebo respectively (HR 0.80). This study indicates that even the elderly without hyperlipidemia benefits from statin. (Ann. Intern. Med. 2010; 152:488).
A reductase inhibitor is used to treat benign prostatic hypertrophy. It blocks the conversion of testosterone to dihydrotestosterone. The previous PCP trial showed a 25% reduction in the incidence of prostate cancer by finasteride when compared with placebo. Dutasteride is a dual 5a reductase inhibitor. The current REDUCE study examined the effect of dutasteride on the incidence of prostate cancer among men at increased risk (age 50-75, elevated PSA level 2.5-10 and previous suspicions of prostate cancer that led to negative prostate biopsy). In this study >6700 men were randomized to receive dutasteride (0.5 mg/day) or placebo. Over 4 years of follow-up there was a 22.8% relative risk reduction for prostate cancer with dutasteride treatment as compared to placebo. Therefore, dutasteride may be considered as a treatment option for men who are at increased risk for prostate cancer. (N. Engl. J. Med. 2010; 362:1192).

Low serum vitamin D level has been shown to be associated with increased risk for cancer. To examine the association between serum 25-hydroxy vitamin D (25 [OH] D) level and the risk for colorectal cancer, a large case-control study involving 520,000 participants was conducted. After 4 years of enrollment 1248 patients had colorectal cancer. These individuals were matched to 1248 healthy controls. The study also showed that patients in the highest serum 25 (OH) D quintile (>100 nmol/L) had a 40% lower risk for colorectal cancer than those in the lowest quintile (<25 nmol/L). The results of this study may lead many to recommend Vitamin D supplementation to reduce the risk for colorectal cancer. (BMJ 2010).