regression model, there is no statistically significant difference between the level of BNP and the severity of CHF in non-obese patient group (p>0.05). However, in obese CHF patients, when divided into 3 subgroups according to the level of BNP (higher BNP group with level ≥1000pg/ml, mid-level group with level between 500 to 1000pg/ml and lower BNP group with level ≤500pg/ml), BUN in higher BNP group was 42.2±26.7mg/dl and low BNP group was 21.0±13.5mg/dl (p<0.03), Creatinine level in higher BNP group was 2.54±1.69mg/dl and 1.25±0.51mg/dl in lower BNP group (P<0.03), The length of hospitalization in higher BNP group was 5.2±2.3 days and lower BNP group was 3.9±1.6 days (p=0.045).

Conclusion: Higher BMI is associated with relatively lower level of BNP and the level of BNP is also reversely proportional to the severity of obesity in CHF patients. However, only in obese CHF patients, higher BNP is associated with worsening renal function and longer hospitalization stay.

184 Quantitative Meaning of Common Terms Like "Very Low Risk" and "Low Risk" for Chest Pain Patients

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Study Objectives: Although emergency physicians often use the terms low risk or high risk to describe chest pain patients, little is known about their quantitative meaning. We sought to assign a quantitative meaning for these common qualitative terms with respect to acute coronary syndrome and serious outcomes in chest pain patients. We also sought to identify the risk threshold at which emergency physicians admit or discharge these patients.

Methods: We conducted a web-based survey of emergency medicine residents at 11 academic medical centers. Participants were given 5 case scenarios of common ED presentations for chest pain. The scenarios were designed to encompass a broad range of risk, although none had frank ST-elevation myocardial infarction. All participants received the same clinical scenarios - half were asked to qualitatively assess the risk of ACS and half were asked to assess the risk of serious complications (death, dysrhythmia, or congestive heart failure). For each scenario, participants were asked to evaluate the patients' risk as Very Low, Low, Moderate, High, or Very High. Once this determination was made, subjects were asked to quantify the exact risk the patient had and choose an appropriate disposition for the patient. Responses were grouped according to the qualitative risk categorization and the mean quantitative response was tabulated for each of the 5 categories. The admission rate for each risk category was also evaluated. Descriptive statistics are presented.

Results: 217 physicians (90.6% residents) completed the questionnaire. For cases that were categorically coded as Very Low Risk of ACS, the median quantitative risk was 0.088% [IQR 0.009 – 0.20%] with an associated admission rate of 7.14% [CI 0–15.2%]. Those coded as Low, Moderate, High, and Very High Risk had values of 0.45% [IQR 0.1–1.0%], 1.05% [IQR 1.0–2.29%], 3.33% [IQR 1.6–10%], and 10% [IQR 2.94–20%], respectively, with admission rates of 31.6% [CI 23.1–40.1%], 93.8% [CI 90.1–97.3%], 100% [CI 97.1–100%], and 100% [CI 93.7–100%] respectively. Cases coded as Very Low Risk for serious complications had a median quantitative risk of 0.015% [IQR 0.009–0.1%] with an associated admission rate of 1.89% [CI 0–5.7%]. Those coded as Low, Moderate, High, and Very High Risk had values of 0.25% [IQR 0.09–1.0%], 1% [IQR 0.49–2%], 1.68% [IQR 1–4%], and 5%[IQR 1.0–10%] respectively, with admission rates of 42.3 [CI 33.7–50.9%], 92.4% [CI 88.4–96.4%], 99.3% [CI 98.1–100%], and 100% [CI 92.1–100%] respectively.

Conclusion: This is the first study to determine the quantitative meaning of the common terms Very Low, Low, Moderate, High, and Very High Risk with respect to chest pain scenarios. High rates of admission are seen for patients assessed as Moderate, High, and Very High risk. Quantitative risk assessments were similar when physicians were asked to assess the risk of ACS or assess the risk of serious complications despite epidemiologic evidence that these should markedly differ. This finding merits further study.

185 Asymptomatic Bacteriuria: Is the Presence of Microscopic Bacteriuria Without Pyuria in Asymptomatic Pregnant Females Associated With Positive Urine Culture? A Retrospective Cross-Sectional Study

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Study Objectives: Urine samples are frequently collected from pregnant females in the acute care setting during triage, or as part of initial workup, regardless of the presence of symptoms consistent with urinary tract infection. Asymptomatic culture-proven bacteriuria in pregnant females is typically treated with antibiotics due to concern for risks to the pregnancy and the development of pyelonephritis. In the acute care setting, it is common practice to treat patients with abnormal urinalysis results, as patient follow-up for culture results may be problematic. While the sensitivity and specificity of the various components of microscopic urinalysis have been well described, there is a paucity of literature comparing culture results of abnormal urinalyses to normal urinalyses in asymptomatic pregnant females. Our objective was to determine if there is a significant difference in positive culture results in pregnant patients whose urinalysis is positive only for microscopic bacteria, as compared to those with normal urinalysis.

Methods: A retrospective cross-sectional study was performed on pregnant females who presented as outpatients to a military treatment facility (MTF), and had both a urinalysis and urine culture performed. Pregnant females aged 18–50 were included who denied symptoms of urinary tract infection. Exclusion criteria included symptoms of urinary tract infection, urinalysis positive for markers other than bacteria, or incomplete information regarding symptoms, urinalysis or culture results. The study variables included positive or negative microscopic bacteria on urinalysis, and positive or negative urine culture. The data was summarized by comparing proportions with 95% confidence interval for positive culture results in both groups.

Results: All pregnant females who presented to an MTF in 2008– February 2009, and had a urinalysis and urine culture performed, were identified via computer data extraction. A total of 3547 charts were reviewed. 2552 charts were excluded due to incomplete data or exclusion criteria. 995 patients were included; 473 with urinalysis abnormal only for presence of bacteria, and 522 with normal urinalysis. Nine patients with bacteria noted on urinalysis had positive urine cultures; 1.9% (95% confidence interval, .95% to 3.6%). Twelve patients with normal urinalysis had positive urine cultures, 2.2% (95 % confidence interval, 1.3% to 4.0%).

Conclusion: There was no significant difference between proportions of positive culture results in the groups evaluated in our study. In this study population, pregnant patients without symptoms of urinary tract infection whose urinalysis is positive only for bacteria do not have a significantly greater incidence of bacteriuria as defined by culture results, compared to those with completely negative urinalyses. It may be reasonable to withhold antibiotics from asymptomatic pregnant females whose microscopic urinalysis demonstrates presence of bacteria without other indicators of infection.

186 Tamsulosin Does Not Increase One-Week Rate of Passage of Ureteral Stones in Emergency Department Patients

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Study Objective: Our objective was to determine if tamsulosin monotherapy improves rates of ureteral stone passage at one week or time to pain resolution, compared to placebo.

Methods: We conducted a prospective, double-blind, randomized, trial of Tamsulosin compared to placebo in the treatment of ureterolithiasis, with a primary outcome of proportion of stones passed at 7 days. Emergency department (ED) patients who presented with documented kidney stone by Helical CT between April 2007 and February 2009 were considered for inclusion. Patients received standard analgesia and either tamsulosin or placebo for a total of 10 days. A structured telephone survey was conducted at days 2, 3, 5, 7, and 10 to assess for stone passage and pain scores. Exclusion criteria included stone > 8mm, patients who required immediate surgical intervention, concurrent infection, and presence of ureteral stent. Our power analysis, based on previous reports, assumed a one-week passage rate with tamsulosin of 85% and placebo of 60%. Based on an alpha error of 0.05 and power of 80%, we needed 57 subjects per group. Chi square and Fisher's exact test were used for analysis.

Results: 127 patients were enrolled over a 22-month period; 15 were lost to follow-up and 12 required a surgical intervention before 7 days, leaving 100 patients for analysis. Of these, 47 received placebo and 53 received tamsulosin. Groups were similar for age, sex, initial serum creatinine, initial pain score on ED presentation, location of stone, proportion of stone < 6 mm, history of prior stone or stent, and degree of hydronephrosis. There was no difference in pain medication usage between the two groups at days 2, 3, and 7. The percentage of patients who had stone passage

within seven days was 42.2% in the placebo group and 44.2% in the tamsulosin group, with Fisher's exact = 1.00.

Conclusion and Discussion: In this study, there was no statistical difference in the proportion of stone passage at 7 days between tamsulosin and placebo. We observed a lower one-week pass rate than previous reports. We also did not find a difference in pain medication requirements between patients in the two groups. Limitations of this study include non-consecutive enrollment and small sample size. Further investigation should be performed with a larger sample size and should include combination therapy.

187 Value of Head CT in Syncope Patients in the Emergency Department

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Background: Patients with syncope often undergo extensive and expensive work-up in order to rule out serious causes for the event. Current guidelines do not recommend the routine screening of syncope with advance imaging, such as head computed tomography (head CT) in the absence of focal neurologic findings, but it is still a common practice among physicians.

Study Objectives: Our goal was to determine the usefulness of head CT scan aiding in diagnosing the cause of syncope in patients presenting to an academic emergency department (ED) in Puerto Rico.

Methods: Retrospective cohort study of consecutive patients who presented to a single academic ED in Puerto Rico during a 12-month period with documented syncope. We evaluated how many patients had a head CT ordered and among them, how many had abnormal results. The primary outcome was an abnormal head CT with relevant findings to the cause of syncope defined as: epidural or subdural hematoma, intracerebral hemorrhage, ischemic stroke or brain mass. Non-parametric test were used accordingly to the skewed distribution of the data.

Results: A total of 210 patients presented to the ED with a diagnosis of syncope between January and December 2007, 47 patients were excluded because have neurological deficit, seizures, hypoglycemia, near syncope or were younger than 18 years old. A total of 163 patients were included in the study. The mean age was 63.2 + 19.9 years and 56% were females. A total of 141 (87%) patients had a head CT ordered, and among them only 2 (1%) had an abnormal head CT. Those with a head CT ordered were older (72 vs. 46 years, p=0.0001), had a first-time syncope (69% vs. 31%, p=0.0001) and had history of hypertension (92% vs. 8%) when compared to those without head CT performed.

Conclusions: Head CT is frequently used in syncope patients. This study supports the evidence that head CT for syncope in the absence of focal neurologic findings or significant head trauma may not be indicated and does not aid in the clinical management. By limiting its use we will decrease the overall cost of syncope evaluations.

188 Evaluation of a Non-Contact Infrared Thermometer in an Adult Emergency Department

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Study Objectives: Temperature measurement is an essential component of patient vital signs. While the pulmonary artery catheter thermistor is the gold standard for core temperature measurement, this method is invasive and impractical in emergency department (ED) patients. ED providers need a rapid, accurate and non-invasive method to measure patient temperatures. The ThermoFocus™ non-contact infrared thermometer is a novel device that meets these needs while also eliminating the need for probe covers. Therefore, we set out to evaluate this thermometer and compare its agreement with the currently used non-invasive methods of oral and tympanic thermometry.

Methods: A convenience sample of adult patients presenting to an urban, teaching hospital ED with a census of 87,000 patients was evaluated June thru August 2008. Patients were screened prior to enrollment for oral and/or facial trauma. In addition, patients were equilibrated to ambient temperature for a period of 5 minutes and any residual moisture was wiped from face. Temperatures were taken three times at each of four locations: Left sublingual fossa using the Filac™ 3000 AD (Kendall, Mansfield, MA), left tympanic membrane using Genius 2™ (Kendall, Mansfield, MA), center of forehead and left temple using the Thermofocus™ Infrared Thermometer (Technimed, Italy).

Results: 298 patients aged 18–88 years (mean 44.1 years, SD 13.9) were evaluated. Oral temperatures ranged from 92.3°F –102.2°F (mean 97.7°F, SD 0.95). Tympanic temperatures ranged from 93.4°F –101.5°F (mean 97.0°F, SD 0.96). Center of forehead temperatures ranged from 94.2°F –100.0°F (mean 97.2°F, SD 0.89). Temple temperatures ranged 95.7°F –101.4°F (mean 97.7°F, SD 0.88). Bland-Altman analysis was used to evaluate agreement between temperatures at the different locations. Center of forehead to tympanic measurements demonstrated a bias of 0.26°F (SD 0.90) with 95% limits of agreement (LOA) of −1.51 to 2.02°F. Center of forehead to oral comparison demonstrated bias of −0.51°F (SD 1.03) with 95% LOA of −2.52 and 1.51. Center of forehead to temple demonstrated bias of −0.49 (SD 0.63) with 95% LOA of −1.72 and 0.75°F. Oral to tympanic comparison demonstrated bias of 0.76 (SD 0.74) with 95% LOA of 0.69 to 2.22°F. Temple to tympanic comparison demonstrated bias of 0.74 (SD 0.95) with 95% LOA of −1.11 to 2.56°F. Temple to oral comparison demonstrated bias of −0.02 (SD 0.99) with 95% LOA of 1.96 to 1.92°F.

Conclusion: While the bias between the Thermofocus™ and oral/tympanic thermometers was less than 1°F, the disagreement between thermometers was as large as 2.5°F. This disagreement would be unacceptable in many clinical circumstances. Of note, the tympanic and oral thermometers demonstrated poor agreement with each other. Ultimately, we cannot recommend the use of the Thermofocus™ thermometer in adult ED patients at this time and recommend further investigation into the accuracy of oral and tympanic thermometers.

189 Accuracy of Point-of-Care Finger Stick Hemoglobin Compared to Laboratory Value

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Study Objective: Point-of-care finger-stick hemoglobin (FS Hgb) measurement is frequently used in the emergency department (ED) to obtain a rapid estimate of a patient's Hgb concentration. In many cases the value obtained influences patient care by leading the emergency physician to conclude that either clinically significant or insignificant bleeding is occurring. The device used to determine FS Hgb in our ED uses azide-methethemoglobin spectrophotometry to measure capillary Hgb concentration. Prior studies have only evaluated the accuracy of such a device in a stable outpatient population. There is no published data on the accuracy of the this type of FS Hgb measurement compared to a Hgb from a hematology laboratory complete blood count (Lab Hgb) as performed in an ED setting, where it might be used to screen patients suspected of having acute or critical blood loss.

Methods: We examined all patients evaluated in the ED over a six-year span (Jan-2003–Dec-2008) who had both a FS Hgb and a Lab Hgb. At our institution, we use electronic records into which point-of-care and laboratory results are incorporated. Records are retrieved utilizing searchable criteria, and using this system, 8585 records were retrieved. Since patient clinical status may change or bleeding may be ongoing between the two types of measures, we used a maximum of two hours between the FS Hg and correlating Lab Hgb in order to minimize this effect. 1884 records were excluded due to a time difference of greater than two hours leaving 6701 total records.

Results: The Lab Hgb had a median of 12.2 g/dl with an interquartile range (IQR) of 10.1 to 13.8. The FS Hgb had a median of 12.0 g/dl with an IQR of 9.8 to 13.8. The average difference between the two values was 0.77 g/dl (6.8%) with a standard deviation of 0.96 g/dl. The difference between the FS Hgb and Lab Hgb values was statistically significant with a P-value <0.05. The correlation coefficient was 0.91. 74.8% of the FS Hgb values were within 1g/dl of the Lab Hgb value; however, 7.5% were more than 2g/dl apart, with a maximum difference of 11.2 g/dl. There was a normal distribution to the difference between the FS Hgb and Lab Hgb values (47.1% of FS Hgb's were less and, 46.6% were greater than their counterpart Lab Hgbs).

Conclusion: For a large majority of patients the FS Hgb is moderately accurate and represents a value within 1 g/dl of the patient's Lab Hgb. However, in almost 8% of patients the discrepancy between the FS Hgb and the Lab Hgb was ± 2 g/dl (approaching 10 to 11 g/dl in some patients), which we consider to be clinically significant, given the distinct possibility that such a difference in the two might lead to different clinical decisions with regards to transfusion, disposition, and evaluation in certain clinical scenarios. Based upon this it seems that it would be risky to base clinical decisions upon only the value of the FS Hgb.