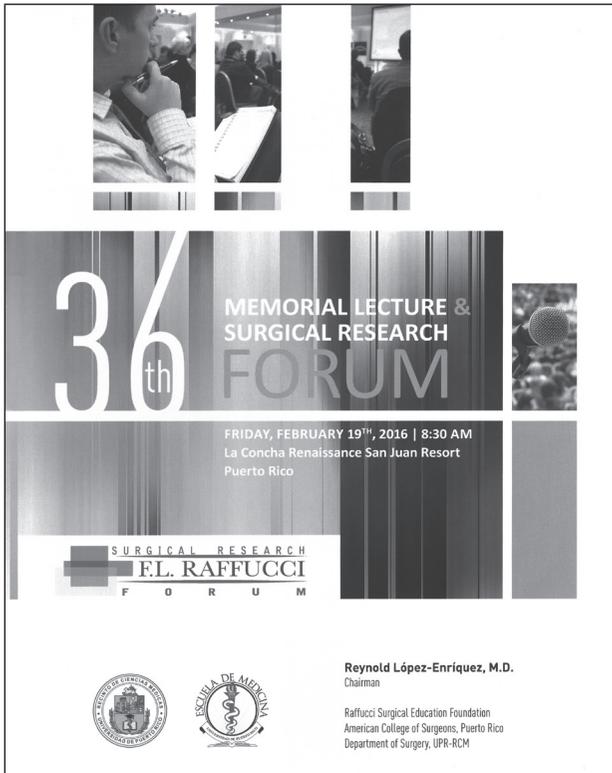


• ABSTRACTS FROM SCIENTIFIC FORUM •



Breast Asymmetry: The Norm not the Exception

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Purpose: It has been reported that 88% of women who had breast augmentation surgery had preoperative breast asymmetry. However, the prevalence of breast asymmetry has not been well studied in women undergoing other breast surgeries.

Methods: Breast measurements of consecutive women, without prior breast surgery, who had plastic surgery evaluation between 1/1/2013 and 10/30/2015, were prospectively recorded in a Plastic Surgery Database. They were classified into three groups according to the presenting breast problem; hypoplastic breasts, macromastia, or ptotic breasts. Comparisons were made between the right and left side of each patient regarding symmetry of the nipple-areola complex (size and position), breast mound, and chest wall. Differences between groups were evaluated using chi². This study was IRB approved.

Results: The breast measurements of 244 consecutive women were evaluated for the study. The mean age was 34 ±11 years. Overall, we found that 91% of the cases had at least one type of breast asymmetry. The prevalence of asymmetry was not significantly different (p>0.05) among groups (Table 1).

Conclusion: Our study indicates that breast asymmetries occur in the majority of women and these findings are similar among the different groups. The most frequent asymmetry is that of the nipple-areola complex. Since asymmetries may

persist or become more pronounced after surgery, patients should be informed of how this might affect the surgical outcome.

Table 1.

Asymmetries	Hypoplasia (n=106)	Macromastia (n=80)	Ptotic Breasts (n=58)	P
Nipple-areola	54±12%	59±15%	51±10%	>0.05
Breast mound	45±12%	47±10%	43±11%	>0.05
Chest wall	12±10%	11±9%	10±7%	>0.05

Decreasing Number of Surgical Cases at the UPR Affiliated Hospitals

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Purpose: As the result of Puerto Rico’s declining population; the number of surgical patients at the UPR affiliated hospitals is decreasing. The magnitude of the reduction in cases was evaluated.

Methods: The study compared the number of surgical cases reported per quarter between 1/1/2013 and 9/30/2015 at the Surgery Database. This database collects patient and procedural information from the surgical services of the University of Puerto Rico (UPR) affiliated hospitals. The percentage decrease in the volume of surgical cases over time was examined. This study was IRB approved.

Results: Information was available for 13,785 cases during the 33 month study period. A decline in the number of cases was noted to occur, most severe during the first and second quarters of 2015. When 2013 and 2015 were compared, there was an 8%, 14% and 7% decrease in the number of cases per successive quarter. Table 1 and Figure 1 illustrate our results.

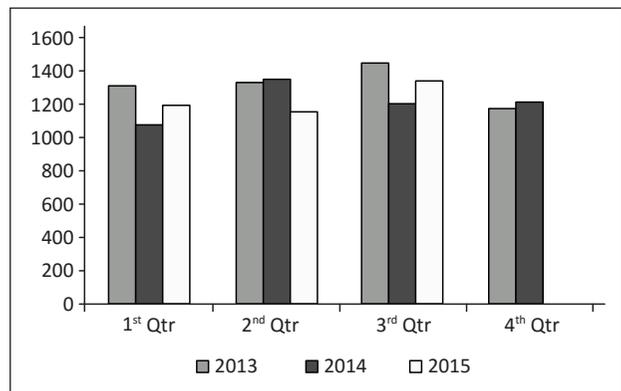


Figure 1. Cases per quarter

Conclusion: A steady decline in the number of cases at the UPR affiliated hospitals was noted. Though a slight recovery

occurred in the 3^{er} quarter of 2015, we continue below numbers seen in 2013. We believe multiple factors, such as a declining population, fiscal and healthcare crisis are responsible for this trend.

Table 1. Percentage decrease from 2013

	1 st Quarter		2 nd Quarter		3 rd Quarter		4 th Quarter	
	Cases	Decrease	Cases	Decrease	Cases	Decrease	Cases	Decrease
2013	1,306		1,333		1,448		1,169	
2014	1,072		1,346		1,208		1,214	
2015	1,195	8%	1,151	14%	1,343	7%	N/A	N/A

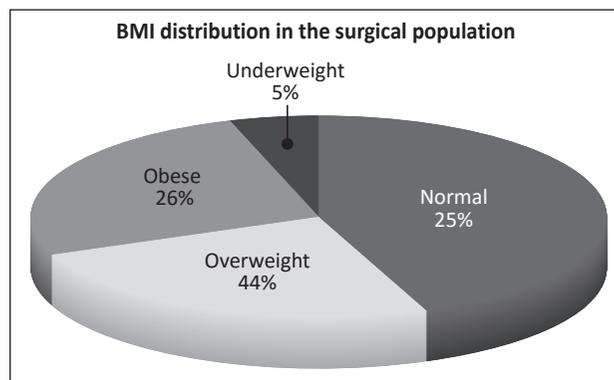
Prevalence of Overweight and Obesity among the Surgical Population of the UPR Affiliated Hospitals

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Purpose: The prevalence of overweight and obesity in the general population of Puerto Rico is currently 65%. However, occurrence of this condition has not been studied in our surgical population.

Methods: All surgical cases between 1/1/2014 and 6/30/2015 at the Surgery Database were examined. This database collects patient and procedural information from the surgical services of the University of Puerto Rico (UPR) affiliated hospitals. The patients were classified according to their body mass index (BMI) as underweight (BMI<18.5), normal weight (BMI 18.5-24.9), overweight (BMI 25.0-29.9) and obese (BMI>30). The prevalence of each BMI group was recorded. The postoperative outcome and the American Society of Anesthesiology class (ASA) were compared between the groups. This study was IRB approved.

Results: Information on 7,246 patients was available for the study period. The mean age was 48±23 years and the mean BMI* was 27.3±6.7. The gender distribution indicated that 55% were females and 45% were males. The BMI distribution in the surgical population is shown in the pie chart.



The postoperative morbidity/mortality/ASA by BMI class is shown (table 1).

Table 1.

	Underweight	Normal	Overweight	Obese	P
Morbidity	5.0%	1.6%	1.8%	3.0%	<0.05
Mortality	3.6%	0.4%	0.3%	0.8%	<0.05
ASA**≥3	31%	21%	16%	22%	<0.05

Conclusion: The prevalence of overweight and obesity in our surgical population is 70%. However, being overweight is not associated with a greater risk of postoperative complications, a phenomenon known as the “obesity paradox”. Patients at the extremes of BMI, particularly the underweight, seem to have the highest postoperative morbidity/mortality rate.

Systematic Review of Outcomes of Endoscopic Optic Nerve Decompression in Patients with Idiopathic Intracranial Hypertension

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Purpose: Idiopathic intracranial hypertension (IIH), is a syndrome of unknown pathogenesis characterized by elevated intracranial pressure. Conventional treatment of IIH involves weight loss, steroids, diuretics and serial lumbar punctures. If symptoms persist or worsen, surgical intervention is recommended. Surgical options include CSF diversion procedures such as VP/LP shunts. Other surgical options include subtemporal decompression and optic nerve decompression (OND). The latter can be carried out using different surgical approaches.

Methods: This systematic review examines the outcomes of performing endoscopic OND in patients with IIH. A total of six studies were included in our review: two case reports, three retrospective studies, and one prospective study for a total of 34 patients. This study was IRB approved.

Results: Patients had either persistent symptoms of headache {30 of 33(90.1%)}, signs of papilledema {26 of 33(78.8%)} or a combination of them. The mean duration of these symptoms ranged from 7 to 32 months. Overall, patients showed post-operative improvement of symptoms and signs associated with IIH, specifically headache (89%) and papilledema (88%) after EOND. The improvements in headaches and papilledema were associated with bony decompression of the optic strut independent of nerve sheath fenestration (75% and 100%) or lack thereof (92% and 86%). Nerve sheath fenestration does not appear to confer a higher incidence of complications.

Conclusion: EOND appears to be a viable surgical option for patients with IIH with headaches and papilledema who fail to respond to medical treatment. Authors did not report a single major adverse event with the EOND approach.

Morbidity and Mortality of Hispanic Trauma Patients with Diabetes Mellitus

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Purpose: Diabetes mellitus (DM) and trauma are leading causes of death in Hispanic patients, yet the interaction between them remains obscure. The purpose of this study was to assess the complications and in-hospital mortality rate of Hispanic diabetic patients following trauma.

Methods: A retrospective analysis of the Puerto Rico Trauma Hospital databank was performed. A total of 1,134 patients with DM from January 2000 to December 2014 were compared to 1,134 patients who did not have DM. The outcomes measured were hospital and ICU length of stay, days on mechanical ventilation, complications and in-hospital mortality rate. This database is IRB approved.

Results: Patients with DM had longer hospital and ICU stay and required mechanical ventilation for an extended period. Complications were more common among DM patients when compared to non-DM patients. However, DM was not associated with higher in-hospital mortality rates. Interestingly, we found that DM had a protective effect in patients with concomitant hypertension, as they were less likely to be admitted to the hospital's stabilization unit when compared with DM patients without hypertension.

Conclusion: DM is associated with an increase in complications, which may account for the longer hospital and ICU stay observed in DM patients. DM may serve as a protective factor in the setting of trauma.

The Effect of Age in Polytraumatized Patients that Receive Massive Blood Transfusion

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Purpose: Massive transfusion (MT) protocols have been developed in order to lessen the mortality impact during exsanguination; however age as a predictor of mortality has not been well documented. We aimed to describe whether age modify the effect of risk for mortality in those receiving MT vs no MT. Additionally, we assessed if age was considered an independent predictor for mortality in those receiving MT.

Methods: A retrospective cohort study was performed with 2,173 injured patients admitted to the PRTD during 2000-2015. These patients were divided on those who received <5 units of blood vs. those receiving MT stratified by age. Data gathered included: socio-demographic variables, mechanism of trauma, ISS, GCS, Injury area and mortality. A logistic regression model was carried out to estimate whether age has a modifying effect in those receiving MT on mortality. This protocol was approved by IRB on November, 2015.

Results: Patients that receive MT during their stay had a higher risk of dying when compared to those that do not receive MT (ORadjusted: 2.36; CI: 1.77-3.16) and there were no differences stratifying for age. Age alone was a predictive factor for mortality for those receiving massive blood transfusion (ORadjusted: 3.49; (age;18-40); 8.38 (41-64); 21.99; (>64); however adding more units of blood was not an independent predictor in mortality.

Conclusion: Our results differ from current studies since age was considered an independent predictor for mortality during MT while in other studies there are no differences in mortality between young and elderly patients in MT.

Morbidity and Mortality Patterns of Pedestrian Injuries in Puerto Rico from 2000 to 2014

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Purpose: Since pedestrian fatalities are the leading cause of traffic-related deaths in Puerto Rico and there is a lack of pedestrian-safety legislation, we aimed to evaluate morbidity and mortality patterns of pedestrian accidents, by age.

Methods: A cross-sectional study was conducted with 2,093 pedestrians admitted to Puerto Rico Trauma Hospital during 2000-2014. Patient data included: sociodemographic characteristics, trauma hours and days, drug use, specific injury area, ISS, GCS, and mortality. A logistic regression was employed to estimate the association between age and mortality. IRB approval was obtained on May 21, 2015.

Results: Most patients were males aged 35-64 years. Those pedestrians <16 years and >64 showed a greater rate of injuries during weekdays. All age categories ranging from 16-24 to 55-64 had the highest incidence of injuries during 8pm-4am. The largest proportion of ethanol was observed in patients aged 55-64 years (18%); marihuana, in the 16-24 age group (21%); and cocaine, in the age categories 25-34 years (19%) and 35-44 years (27%). Injured pedestrians aged 65-74 years had the highest proportion of open wounds of head/neck/trunk (5.02%). A great frequency of lower extremity fractures (51.30%) was presented in the 55-64 age group. Hepatic injuries (13.36%)

commonly affected subjects <16 years. Patients in the >84 age group had 24.55 (CI 95%; 8.10, 74.41) times the risk for dying compared to patients in the youngest group.

Conclusion: Given these findings, greater preventive measures must be tailored according to population age, considering pedestrian safety legislation, educational programs, and urban planning.

The Effect of Unbelted Patients in Mortality after Motor Vehicle Collisions at the Puerto Rico Trauma Center

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Purpose: The literature suggests that use of seatbelts reduces mortality in motor vehicle collisions (MVCs). In PR, MVCs are a public health concern; therefore, this study evaluated the association between seatbelt use and mortality in MVC victims.

Methods: A retrospective-cohort study of 2,685 MVC patients was conducted using the trauma registry of Puerto Rico Trauma Hospital from 2000-2014. Patients' data included: sociodemographic variables, clinical variables, and mortality. A multiple logistic regression was performed to evaluate the mortality risk of belted patients compared to their unbelted counterparts. This study was IRB approved.

Results: Seatbelts use was more frequently in females (71% vs. 62%) and increased with age. Seatbelt victims were less likely to have open wound head neck trunk injuries (8% vs. 12%), intracranial injury (12% vs. 25%), and fracture of skull (10% vs. 17%) than unbelted patients. Meanwhile, fracture of lower extremity (32% vs. 26%) and pneumothorax and hemothorax (16% vs. 12%) occurred in belted patients more frequently. The proportions of patients with a GCS<8 (17% vs 6%; p<0.001) and an ISS≥25 (24% vs. 15%;p<0.001) were significantly greater in the unbelted group. Belted victims had a 30% lower in-hospital mortality compared to their unbelted peers (OR=0.70; 95%CI: 0.52-0.92). However, after adjusting for cofounders, this protection lost statistical significance (AOR=1.04; 95%CI: 0.72-1.5).

Conclusion: Our findings suggested the seatbelt use reduces head injuries which, in turn, diminish in-hospital mortality, as established in literature. Thus, it is imperative to reinforce public service campaigns to educate the population on the benefits of seatbelt use.

Parent-Physician Satisfaction on Surgical Outcomes According to Hypospadias Severity

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Purpose: Hypospadias surgical outcomes have improved over the years. Few studies have been able to ascertain the concordance on satisfaction with surgical outcomes between parents and the urologist according to severity.

Methods: 62 patients from ages 4mo-17 years (median: 8mo, mean: 2.1 y) underwent hypospadias repair at our institution (June 2014-June 2015) and were evaluated with a postsurgical satisfaction questionnaire. Cohen's Kappa coefficient was employed to assess inter-observer agreement. Approved by IRB.

Results: Distribution of cases: Type I(n= 38), Type II(n= 8;) and Type III(n= 16). All patients underwent a pyramid or Snodgrass repair. Late complications per location included: meatal stenosis for Type I (n=1) and fistula for Type II (n=1) and Type III (n=2). Concordance at high level of satisfaction with surgical outcomes between parents and the urologist was: Type I- 74% of cases, Type II- 75% of cases, Type III- 75% of cases. Analyses with Cohen's Kappa statistics revealed a fair level of agreement between raters for Type I and Type III cases (K= 0.24 and K= 0.29, respectively). An acceptable level of satisfaction among parents was observed in 11 out of 62 cases; the majority of which were Type I children (64% of cases).

Conclusion: Hypospadias surgery can be performed with excellent surgical outcomes. Satisfactory parental satisfaction is expected following hypospadias repair and it should correlate with surgeon's assessment. An effective communication between parents and physicians is important in order to have real expectations about surgical outcomes; especially for Type I cases.

Abnormal Serum Lipids and Elevated Body-Mass Index Associated with Prostate Cancer Aggressiveness in Puerto Rican Men

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Purpose: Puerto Rico Cancer Registry data suggest that prostate cancer mortality in the island is higher than that of mainland Caucasians. We sought to evaluate the relationship between metabolic factors and CaP phenotype in a cohort of men treated with radical prostatectomy.

Methods: Using our IRB-approved database, we identified 781 men with CaP treated with RP between 2004 and 2015. Metabolic variables such as body-mass index and a history of diabetes mellitus or dyslipidemia were correlated with prostate cancer phenotype and adjusted for confounding variables. SPSS was used for multivariate analysis.

Results: Mean age of the cohort was 57.5 years, mean serum prostate specific antigen 6.14 ng/ml, T1c clinical stage: 72.5%, biopsy Gleason scores were 6 (3+3): 48.1%, 7(3+4): 36.5%, 7(4+3): 10.6%, and $\geq 8(4+4)$: 4.8%. DM was present in 16.1% (127/791), history of dyslipidemia in 25% (198/781), and obesity in 31.2% (247/781). In univariate analysis, the only factors predictive of biopsy Gleason score $\geq 7(3+4)$ (GS ≥ 7) were a history of dyslipidemia (60.6% GS ≥ 7 vs. 39.4% without dyslipidemia; odds ratio:1.60, 95% confidence intervals: 1.15 to 2.22), BMI ≥ 30 (57.3% GS ≥ 7 vs. 49.4%, OR: 1.37, 95% CI: 1.01 to 1.86), age (OR 1.02, 95% CI: 1.02 to 1.06), serum PSA (1.14, 95% CI: 1.09 to 1.19), and clinical stage $>T1c$ (77.9% GS ≥ 7 vs. 42.1%, OR:4.84, 95% CI: 3.37 to 6.94).

Conclusion: Independent of serum PSA levels and rectal exam findings, Puerto Rican men with CaP and dyslipidemia or obesity exhibited a higher likelihood of being diagnosed with GS $\geq 7(3+4)$ on prostate biopsy.

Hybrid Operative Thrombectomy is Non-Inferior to Percutaneous Techniques for the Treatment of Acute Iliofemoral Deep Vein Thrombosis

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Purpose: Hybrid operative thrombectomy (HOT) is a novel technique for the treatment of acute iliofemoral deep vein thrombosis (IFDVT) and is an alternative to percutaneous techniques (PT) that utilize thrombolytics. In this study, we compare outcomes of patients treated with HOT vs PT.

Methods: From August 2008 to May 2014, 71 consecutive patient were treated with either PT (n=31) or HOT (n=40) for acute/subacute single limb IFDVT. Patients with bilateral DVT, IVC involvement, or phlegmasia cerulea dolens were excluded. Perioperative outcomes, thrombus resolution, and midterm clinical and duplex outcomes were analyzed. This study was IRB approved.

Results: Technical success ($>50\%$ resolution) was 100% for both groups, and greater than 80% resolution was achieved in all patients treated with HOT. There was a trend towards a greater postoperative percent drop in Hgb in the PT group (23% vs 17%, p=0.07). There was one major bleeding event in the PT group that led to mortality. PT was associated with a significantly longer length of stay (13.3 vs 10 days, p=0.028). At a mean follow up of 1.5 years the clinical CEAP classifications were lower for HOT ($\chi^2=6.34$; p=0.01). There was no difference between the groups in mean reflux times at the intervened femoral-popliteal segments.

Conclusion: In our experience, both interventions have demonstrated good short/midterm outcomes. HOT is non-inferior to PT as a technique, and has the advantage that thrombus resolution is established in one operation and LOS is significantly decreased. HOT avoids thrombolytic infusion, which may prevent or reduce major bleeding events.