Comparison between Measured and Patient-Reported Breast Asymmetry in Women with Hypoplastic Breasts

Norma I. Cruz, MD

Plastic Surgery Div., Dept. of Surgery, School of Medicine, University of Puerto Rico Medical Sciences Campus, San Juan, PR

Purpose: Breast asymmetry has a high prevalence among women. However, the frequency of patient's awareness of asymmetry has not been compared to the frequency of clinically measured asymmetry.

Methods: Women evaluated for primary breast augmentation between 11/1/2013 and 11/1/2016 were requested, while looking at themselves in the mirror, to report any pre-existing asymmetry of the breasts in four specific areas. The areas evaluated were; the nipple-areola complex, breast mound, inframammary fold and chest wall. The women were examined and breast measurements were performed and prospectively recorded. Comparison between patient-reported breast asymmetry and clinically measured asymmetry was performed. This study was IRB approved.

Results: The study evaluated 165 consecutive women with hypoplastic breasts who were considering primary breast augmentation. The mean age was 31 ± 10 years. The frequency of patient-reported breast asymmetry was significantly lower ($p<0.05$) than the frequency of measured asymmetry in every category (Table 1). The most frequently missed breast asymmetry by patients was that of the inframammary fold.

Table 1

Asymmetry	Patient-reported (n=165)	Measured (n=165)	P	Discrepancy Reported vs measured
Nipple-areola	66 (40%)	105 (64%)	<0.05	24%
Breast Mound	53 (32%)	88 (53%)	<0.05	21%
Inframammary fold	33 (20%)	83 (50%)	<0.05	30%
Chest wall	11 (7%)	30 (18%)	<0.05	11%
Any asymmetry	68 (41%)	157 (95%)	<0.05	54%

Conclusion: There is a significant discrepancy between the frequency of patient-reported and measured breast asymmetry. Patients are frequently unaware of pre-existing breast asymmetry, resulting in problems when such asymmetry persists or becomes more pronounced after breast augmentation surgery.

Hypertension: Does it Affect Surgical Outcome?

Norma I. Cruz, MD, Elvis Santiago, MS, Annette Pascual, MD

Department of Surgery, School of Medicine, University of Puerto Rico Medical Sciences Campus, San Juan, PR

Purpose: The prevalence of hypertension in the general population of Puerto Rico is 34%. However, it has not been studied if hypertension affects surgical outcome in our population.

Methods: We reviewed the data within the Surgery Database from 10/1/2014 through 9/30/2016 to analyze the impact of hypertension on postoperative morbidity and mortality. This database collects patient and procedural information from the surgical services of the University of Puerto Rico (UPR) affiliated hospitals. The study compared surgical morbidity and 30-day mortality between the hypertensive and normotensive groups. The American Society of Anesthesiology (ASA) class was also compared between groups. This study was IRB approved.

Results: Information on 9,198 patients was available for the study period. The mean age was 49±22 years. The gender distribution indicated that 56% were females and 44% were males. The prevalence of hypertension was 47% in our surgical population, increasing with age, to 76% in patients who were 65 years or older. The prevalence of hypertension was similar for men and women (46.9% vs. 46.2%). The hypertensive group had a significantly ($p<0.05$) higher odds ratio [OR] of having a postoperative morbidity (OR 1.33, 95% confidence interval [CI] 1.05-1.69) and 30-day mortality (OR 2.43, 95% CI 1.44-4.09) when compare with the normotensive group. Of the 65 deaths, 68% were hypertensive and 32% normotensive (Fig. 1). Patients with ASA of 3 or greater were significantly more frequent among hypertensives (76% vs. 24%).

Conclusion: Our study indicates that hypertension has an adverse effect on surgical outcome, increasing morbidity and mortality.

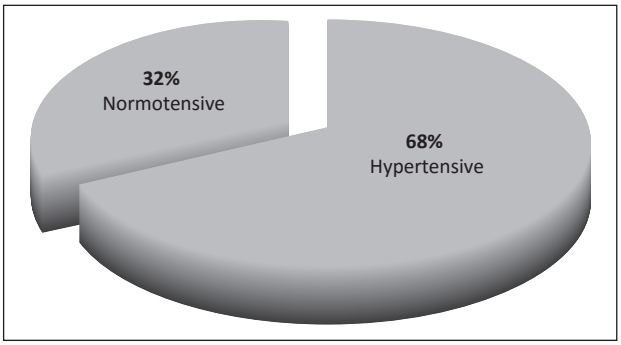

Figure 1. Surgical 30-day mortality distribution

Laparoscopic Distal Pancreatectomy; Initial 3-Year Outcome in Puerto Rico Tertiary Referral Hepatobiliary Center

Natalia Velez-Ramos MD; Elvis Santiago, MS*; Juan J. Diaz, MD†; Juan Del Rio, MD†; Pedro Hernandez, MD, FACS†*

*Department of Surgery, School of Medicine, University of Puerto Rico Medical Sciences Campus, San Juan, PR; †Transplant Center, Auxilio Mutuo Hospital, San Juan PR

Purpose: Laparoscopic distal pancreatectomy (LDP) has been associated with various advantages compared with the open approach in present literature. It is of outmost value that the effect of patient-specific stratification and risk assessment for postoperative outcome be evaluated and described. We aimed to evaluate and describe the initial 3-year outcome for LDP at our tertiary referral hepatobiliary center in Puerto Rico.

Methods: After IRB approval, patients who underwent laparoscopic distal or subtotal pancreatectomy from May 2013 to June 2016 were included in the study, without any exclusion. Patient information was obtained from prospective LDP procedure database and retrospective review of medical records. Postoperative outcomes were tracked for 30 days after initial surgery and results were standardized according to Clavien-Dindo classification.

Results: A total of 51 patients underwent LDP, 32 were female and 19 were male, with median age of 64 years. Surgery was performed fully laparoscopically in 39.2% of cases, 47.1% in a laparoscopic hand-assisted approach and 13.7% were converted to an open procedure. Overall morbidity was seen in 41.1%; 30 patients did not have any complications. Clinically significant complications were seen in 13.7% of patients. Median length of stay was 4 days. Histology revealed 7 adenocarcinomas, 18 neuroendocrine tumors, 11 mucinous cystic adenomas, 4 intraductal papillary mucinous neoplasms, 1 solid pseudopapillary neoplasm and 10 other benign pathologies.

Conclusion: Laparoscopic distal pancreatectomy has a low risk of significant complications. Our results compare with existing international literature and encourage LDP to be considered as first choice procedure for premalignant lesions.

One Year with the New Papillary Thyroid Cancer Management Guidelines: An Analysis on the Impact in Practice Volume and Surgical Training Programs

Annette Pascual, Marcia Alayón, William Cruz, Elvis Santiago; William Mendez

Section of Endocrine Surgery, Department of Surgery, School of Medicine, University of Puerto Rico, Medical Sciences Campus, San Juan, PR

Purpose: New guidelines for Papillary Thyroid Carcinoma (PTC) treatment have resulted in less extensive surgery and non-surgical management in selected cases. We analyzed if the new guidelines have affected the volume or type of surgery for PTC in our institution.

Method: All patients with thyroid surgery in our institution during that year 2016 were included in the study. Two groups were established: group A (all patients with permanent pathology of PTC), and group B (patients with other indications for thyroid surgery). Data was collected for type of surgery in both groups and preoperative imaging studies in-group A. Group A patients were subdivided into two hypothetical categories and one actual category: 1. Proposed Treatment (PT) under 2009 guidelines, 2. PT under 2015 guidelines, and 3. Actual treatment given (AT). The differences among groups were analyzed using Chi2 and ANOVA. IRB approved study.

Results: A total of 308 patients had thyroid surgery in 2016, of those 117 (38%) had papillary thyroid carcinoma. Using PT 2009 guidelines 107 (91%) and using 2015 guidelines 19 (16%) of cases had total-thyroidectomy respectively ($p<0.05$). AT shows that 76 (65%) had total-thyroidectomy for a 49% discrepancy. The main reason for discrepancy was patient's desire n=26(55%). The decrease in number of total procedures was not significant, but when analyzed by procedure there was a significant increase in lobectomy cases.

Conclusion: The 2015 new guidelines for management of PTC did not result in a reduction in total procedures, but significantly increased the number of thyroid lobectomies.

Double-Layer Vesicourethral Anastomosis Associated with Improved Urinary Continence One-Year After Robotic Prostatectomy

Ramphis Morales-López, MD; Juan Guzmán-Negrón, MD; Héctor López-Huertas, MD; Ronald Cadillo-Chávez, MD; Ricardo Sánchez-Ortiz, MD

Urology Section, School of Medicine and the Robotic Urology & Oncology Institute, University of Puerto Rico Medical Sciences Campus, San Juan, PR

Purpose: Despite modifications in technique, urinary incontinence after robotic radical prostatectomy (RP) remains a challenge. We reviewed our experience with urinary continence after adopting a double–layer (DL) vesicourethral anastomosis.

Methods: We performed an IRB approved phase II trial using the Expanded Prostate Cancer Index Composite (EPIC) short form questionnaire in 100 patients to evaluate for improvement in continence by adding another stitch after the vesicourethral

anastomosis to reapproximate the anterior detrusor to the horseshoe striated sphincter and dorsal vein. DL patients were compared with 100 consecutive patients who underwent single-layer (SL) surgery prior.

Results: The questionnaire response rate was 86.5%, and all patients had follow-up greater than 12 months (median 16.9). Patients with a DL anastomosis exhibited an earlier return to continence (4.6 months) compared with the SL group (5.9 months) (p = 0.037). 85.4% of the DL group responded they "almost never" used pads compared with 72.5% in the single layer group (p=0.04). Men in the SL group were more likely to use more than one pad if required (6/12) compared with patients in the DL group (1/6) (p=0.049). There were no differences between groups regarding age, PSA, BMI, strictures, early urinary retention, catheter time, operative time, estimated blood loss, or history of diabetes.

Conclusion: Based on a validated questionnaire, performing a double layer vesicourethral anastomosis during robotic prostatectomy was associated with an earlier return of continence, less episodes of leakage, and less severe incontinence one year after surgery. This data warrants validation in a prospective randomized fashion.

A Recipe for a Successful Awake Tracheostomy

Jeamarie Pascual-Marrero, MD, MPh; Fernando Morell, MD*; Mariana Ortiz-Martínez, MD*; Gabriel Hernández, MD*; Jaime Aponte-Ortiz, MS IV†; Gabriel Rivera-Rivera, MS IV‡; Miguel Garratón, MD*; Antonio Riera-March, MD, FACS**

*Department of Otolaryngology-Head and Neck Surgery Section; †School of Medicine, University of Puerto Rico, Medical Sciences Campus, San Juan, PR; ‡San Juan Bautista School of Medicine, Caguas, PR

Purpose: Awake tracheostomies are indicated for patients with airway obstruction when other methods of securing the airway have failed or are inappropriate. A critical difference that this procedure has to its ordinary counterpart is the required cooperation of the patient, a difference that makes the procedure more technically difficult and dangerous. Scant protocols have been described to address the challenge of performing this procedure with the patient conscious. For this reason, the University of Puerto Rico Otolaryngology-Head and Neck Surgery Service (UPR-OTOHNSS) presents the outcomes of its standardized awake tracheostomy protocol for the management of a difficult airway.

Methods: A retrospective cross-sectional study was performed using the UPR-OTOHNSS's operative reports database from 2011-2015. The study sample consists of 180 patients that required an emergent awake tracheostomy and followed UPR-OTOHNSS protocol. This study is still ongoing and approved by the MSC-IRB.

Results: Most of the samples were males (n=162). The most common indication for surgery was cancer (n=144) and the supraglottis (n=38) was the most frequent subsite. 82% of the cancer patients had an advanced stage (3-4) (p-value <0.05). Only a 3.3% of overall complications associated to the procedure were reported (pneumothorax n=2, tracheostome dislodgement n=1, myocardial infarction n=1, hemorrhage EBL=1500cc, loss of airway=1). In 99% of the cases the airway was successfully secured.

Conclusion: The UPR-OTHNSS awake tracheostomy protocol offers a safe method to secure the airway with minimal complications. To our best knowledge, this study represents one of the largest samples of awake tracheostomies with its outcomes.

Outcomes of Early Stage Complicated Sinusitis Treated with High Volume Nasal Irrigations

Gabriel Hernandez, MD; Luis M. Garraton, MS†; Juan Carlos Portela, MD**

*Department of Otolaryngology-Head and Neck Surgery, School of Medicine, University of Puerto Rico Medical Sciences Campus, San Juan, PR; †School of Medicine, Universidad Central del Caribe, Bayamon, PR

Purpose: Acute rhinosinusitis (ARS) is an inflammatory condition of the nasal cavity and the paranasal sinus mucosa, which can be destructive to regional bony structures. Regional spread to the orbit is the most common complication. Management of orbital involvement is determined according to the Chandler staging (Stages 1-4). Early stage complicated sinusitis (Chandler 1-2) can be managed medically. Standardized medical treatment protocols, including the use of saline irrigations, have not been described in the literature for the management of this disease. We present our experience with the University of Puerto Rico sinusitis protocol (UPR-SP) that consists of IV antibiotics, IV steroids, and topical therapy (decongestant, saline irrigations, and topical steroids).

Methods: A retrospective review of medical records of patients 4 y/o and older with early stage complicated sinusitis was performed from 2005 to 2015. This is a preliminary result on an ongoing study with 9 patients that met our inclusion criteria and were treated with the UPR-SP. This study was approved by the MSC-IRB.

Results: All 9 patients with early orbital complications of ARS were successfully treated with the UPR-SP without the need for surgical intervention or further progression of the disease. All patients were discharged home on oral antibiotics. No complications were reported.

Conclusion: Evidence collected shows that the protocol is a safe and effective treatment modality for early stage complicated sinusitis with no complications reported. Further studies with a larger sample size are necessary to be compared against other described interventions.

Imaging Associated Radiation Trends in Our Pediatric Surgical Population. Are We Choosing the Appropriate Imaging Modalities in Our Non-Tertiary Emergency Departments?

Jorge J. Zequeira, MD, FACS, FAAP; Keila Diaz-Morales, MD; Carlos Sanchez, MD

Pediatric Surgery Division, Department of Surgery, General Surgery Residency, School of Medicine, University of Puerto Rico, Medical Sciences Campus, San Juan, PR

Purpose: It is known that cumulative radiation exposure is detrimental to our health and that the pediatric population is more susceptible to its effects. A study demonstrated that repeated pediatric exposure to radiation via medical imaging could confer a threefold increased risk of developing hematogenous and central nervous system malignancies. This study assesses how non-tertiary centers assess pediatric patients for suspicion of abdominal pathology and compare it to the imaging practices at our University Pediatric Hospital (HOPU).

Methods: A single surgeon's experience was revised retrospectively identifying all patients that were operated for appendicitis. All imaging studies were reviewed and stratified as performed in our tertiary vs. non-tertiary centers. Subgroups were created, taking into consideration, which was the first imaging modality used to assess the pathology in question. Approved by IRB.

Results: 82 patients evaluated. 50 CT scans were completed of which 72% were performed in non-tertiary referral centers. A total of 34 ultrasounds were done of which 82.4% were performed at HOPU. The first study of choice was a CT scan in 87.5% of the patients evaluated initially in non-tertiary centers, while HOPU performed ultrasound as imaging modality of choice in 76.7% of patients, statistically significant ($P<0.001$) difference.

Conclusion: Puerto Rican pediatric population with appendicitis has an increase risk of receiving a CT scan if they go first to a non-pediatric health care institution, in comparison to those treated in a tertiary pediatric hospital. Educational strategies are needed in order to decrease the unnecessary radiation burden in our pediatric population.

The Impact of Unemployment on the Admission Rate Secondary to Intentional Penetrating Trauma in Puerto Rico

Alanna Guzman, MD; Omar Garcia-Rodriguez†, DrPh, MS; Ediel Ramos-Melendez†, Lourdes Guerrios, MD, MPH†; Pablo Rodriguez-Ortiz*†, MD, FACS, FCCM, FACP, FCCP*

*Department of Surgery, School of Medicine, University of Puerto Rico, Medical Sciences Campus, San Juan, PR; †Puerto Rico Trauma Hospital, San Juan, PR

Purpose: Gunshot wounds (GSWs) represent one of the five leading causes of death from injury. Patients with recurrent intentional injury also had higher unemployment rate when compared to other assault-injured patients. Therefore as unemployment increases so does the criminal activity. Our objective is to assess the impact of the economic recession on the admission rate secondary to penetrating trauma in the Puerto Rican trauma patient.

Methods: An ecological time-series of the Puerto Rico Trauma Registry was performed during the years 2003 to 2014 for all patients with penetrating injuries. Socio-demographic variables, days in Intensive care unit (ICU), hospital length of stay (LOS), hospital charges and probability of survival were measured. Simple linear regression and multivariate analysis were performed. This protocol was approved by IRB B0030215.

Results: The number of cases of penetrating trauma had a positive correlation with monthly unemployment rates. As the unemployment rate increases, the number of days in (ICU) and the (LOS) also increase. As the Coincident Economic Activity (CEA) decreases, patients have a longer stay in the ICU and the LOS is greater. A change in the monthly unemployment rate by 1 unit causes a trauma by gunshot wound while a change in 2 units are necessary to lead to a trauma via a stab wound. With regards to the CEA, a change in 5 to 6 units is needed to result in a penetrating trauma due to gunshot or stab wound.

Conclusion: This study confirms that as unemployment rises, the number of penetrating trauma cases also increases.

Health Insurance Related Disparities in Trauma Patients After Penetrating Injuries 2000-2014

Rafael De Ayala-Hillman, MD; Cristina Diaz-Marty, BS†; Omar Garcia-Rodriguez, DrPh, MS‡; Ediel Ramos-Melendez‡, Lourdes Guerrios, MD, MPH‡; Pablo Rodriguez-OrtizMD, FACS, FCCM, FACP, FCCP*‡*

*Department of Surgery, School of Medicine, University of Puerto Rico, Medical Sciences Campus, San Juan, PR; †Medical Doctor Candidate-School of Medicine, San Juan Bautista, Caguas, PR; ‡Puerto Rico Trauma Hospital, San Juan, PR.

Purpose: Studies have established higher rates of complications, longer length of stay (LOS), Intensive Care Unit (ICU) days, mechanical ventilation days and mortality when insured and uninsured patients are compared after traumatic injuries. In view of the differences of the PR health care system versus that of the US we aimed to examine if there is any difference by insurance coverage on morbidity and in-hospital mortality.

Methods: A retrospective review was performed during the years 2000-2014 for all patients who sustained penetrating injuries. They were stratified by type of health insurance Public Health Insurance (PuHI), Private Health Insurance (PiHI), Self Paid (SP) and outcomes were measured. Statistical descriptive analysis was conducted. This protocol was approved by IRB B0030715.

Results: Chest injuries showed greater frequency among PuHI patients followed by SP and PiHI (40.93%, 35.53%, and 34.17%). Abdominal injury frequencies were also higher in PuHI patients, coming second PiHI patients, and last SP patients (48.66% vs. 41.29%, and 40.34%). A higher frequency of SP patients (10.12%) admitted to the PRTH were in shock (<90mmHg). Critical ISS values (>25) were observed in greater frequency in PuHI patients compared to other groups (15.70% PuHI vs. 14.42% SP vs 12.47% PiHI). SP patients had a 54% higher mortality rate relative to PiHI patients.

Conclusion: This study suggests that having a universal/public health insurance have a positive impact on mortality in trauma patients since people within this health care plan had similar outcomes as those with private insurance.

Vimentin regulates β-Catenin translocation during Epithelial to Mesenchymal Transition in renal fibrosis

Reynold I. Lopez-Soler, MD, PhD, FACS
Dept. of Surgery, Division of Transplantation, Albany Medical College, Albany, NY

Purpose: Epithelial to Mesenchymal Transition (EMT) in renal tubular epithelial cells has been described as a precursor to chronic allograft nephropathy (CAN). Vimentin is a member of the intermediate filament family of proteins and is expressed during EMT/CAN. What remains unknown is whether vimentin expression is required for EMT in renal grafts leading to CAN
Methods: Cultured human proximal renal tubular (HK-2) cells were subjected to lentiviral-driven inhibition of vimentin expression. Cells were induced to undergo EMT via exposure to TGF-β. Wound healing assays were used to determine EMT. Expression and translocation of β-Catenin was determined via western blotting, immunofluorescence, and mRNA quantification. 129 svs6 vim -/- mice underwent unilateral ureteral obstruction (UUO). Kidneys were then harvested and analyzed via western blotting, immunofluorescence, and genomic analysis. IACUC approved.
Results: Western blotting analyses of vim -/- mice shows early (1week) expression of soluble vimentin prior to the presence of soluble β-catenin (2 weeks). Interstitial collagen deposition was increased in control mice following UUO and decreased in vim -/- mice. Vimentin inhibition of HK-2 cells results in decreased migration during wound healing assay following treatment with TGF-β. Western blotting of vimentin-inhibited HK-2 cells following TGF-β exposure shows an increase in both soluble β-catenin and E-cadherin.
Conclusion: Vimentin is crucial for the development of EMT in cultured cells and fibrosis in mice via an alteration of the dynamics of β-catenin release from the cadherens junctions. These results provide insight into the role of vimentin in the steps leading to chronic graft loss following transplantation.

• CORRECTION •

In the March 2017 edition of the *Puerto Rico Health Science Journal*, an article was published titled: "Mortality Disparities among HIV+ Men and Women in Puerto Rico: Data from the HIV/AIDS Surveillance System 2003-2014" (page 24). The article was revised, but still we found an error after publishing. In the statistical analysis section (page 25), after the description of the indirect standardized death rate (ISDR) formula, the parameters in which the paragraph refer of the formula, are erroneous.

In the edition it states:

"where Rs is the crude rate of the standard population, D is the total number of deaths in the observed population, Rsi is the age-specific death rate in age interval i in the standard population, and Pi is the population of age interval i in the observed population (5,6)."

The above sentence should be:

"where C indicates the crude mortality in the study population, Dj indicates the total number of deaths in our study population with the j-th mode of transmission, Ri indicates the age-specific death rate in the i-th age group of the standard population, and Pij indicate the number of persons in the i-th age group for the j-th mode of transmission in our study population (5,6)."
