Thursday, September 4

Moderated Poster Session (MP01) 01:30 pm–03:30 pm

Basic Research 1
Room: RM 101 A

Moderator: Xin Gao, Mark Katz, Chaidir Mochtar

*Underlined name denotes the presenter.

MP01-01 METABOLIC SHIFT AND MTDNA COPY NUMBER CHANGE IN HUMAN RENAL CELL CARCINOMA
Chen-Sung Lin1,2, Siao-Cian Pan2, Ya-Huei Wei1,2, Allen Wen-Hsiang Chiu1,4
1Faculty of Medicine, National Yang-Ming University (Taiwan)
2Institute of Biochemistry and Molecular Biology, National Yang-Ming University (Taiwan)
3Division of Thoracic Surgery, Department of Surgery, Taipei Hospital, Ministry of Health and Welfare (Taiwan)
4Department of Urology, Taipei Veterans General Hospital (Taiwan)

MP01-02 TREATMENT OF RENAL CELL CARCINOMA WITH A NOVEL NANOPARTICLE: INITIAL IN VITRO RESULTS
Cameron Callaghan1, Michael Maddox1, Donna Peralta2, James Liu1, Sree Harsha Mandava1, Matthew Tarr1, Benjamin Lee1
1Tulane University School of Medicine (United States)
2University of New Orleans (United States)

MP01-03 EVALUATION OF SORAFENIB-LOADED PLGA NANOPARTICLES IN THE TREATMENT OF RENAL CELL CARCINOMA
James Liu1, Sree Harsha Mandava1, Benjawon Boonkaeo2, Michael Maddox1, Srinivas Chava2, Cameron Callaghan1, Srikanta Dasu1, Vijay John1, Benjamin Lee1
1Tulane University School of Medicine (United States)
2Tulane University Department of Chemical & Biomolecular Engineering (United States)

MP01-04 TWO-PART SILICONE MOLD. A NEW TOOL FOR FLEXIBLE URETEROSCOPY SURGICAL TRAINING
Bruno Marroig1, Luciano Alves Favorito1, Marco Antônio Fortes1, Marco A. Pereira-Sampaio1, Francisco J.B. Sampaio1
1State University of Rio de Janeiro (Brazil)

MP01-05 A HIGH-THROUGHPUT MINIMALLY-INVASIVE, ULTRASOUND-GUIDED MODEL FOR THE STUDY OF CATHETER ASSOCIATED URINARY TRACT INFECTIONS AND DEVICE ENCRUSTATION IN MICE
Claudia Janssen1, Joey Lo1, Wolfgang Jäger2, Igor Moskalov2, Adrienne Law1, Ben H. Chew1, Dirk Lange1
1The Stone Centre at VGH, Department of Urologic Sciences, University of British Columbia (Canada)
2Vancouver Prostate Centre, Department of Urologic Sciences, University of British Columbia (Canada)

MP01-06 EVALUATION OF THE TENSILE STRENGTH OF THE HUMAN URETTER - PRELIMINARY RESULTS
Yaniv Shilo1, Joseph E. Pichamuthu2,3, John C. Lynam1, Timothy D. Averch1, David A. Vorp2,3
1University of Pittsburgh Medical Center (United States)
2Massachusetts General Hospital (United States)
3McGowan Institute for Regenerative Medicine (United States)

MP01-07 INCIDENCE, CLINICAL CHARACTERISTICS, AND MAJOR LIFESTYLE FACTORS ASSOCIATED WITH UPPER TRACT UROTHELIAL CARCINOMA IN TWO PROSPECTIVELY FOLLOWED COHORTS OF MEN AND WOMEN.
Jed-Sian Cheng1, Seth Bechis1, Mark Preston1, Kathryn Wilson2, Glen Barrisford3, Alex Sanchez1, Dayron Rodriguez1, Adam Feldman1, Meir Stumpffer2, Eunyoung Cho3
1Massachusetts General Hospital (United States)
2Harvard School of Public Health (United States)
3Brigham and Women’s Hospital (United States)

MP01-08 REFERRED PAIN IN KIDNEY STONE DISEASE: SENSORY AND TROPHIC CHANGES
Palle Jørgen Sloth Osther1, Katja Venborg Pedersen1, Asbjørn Mohr Drewes2,3, Ole Graumann1, Susanne Sloat Osther1, Anne Estrup Olesen3, Lars Arendt-Nielsen3
1Urological Research Center, Lillebaelt Hospital, University of Southern Denmark (Denmark)
INTRODUCTION AND OBJECTIVES: We aimed to describe our experience with the transvaginal NOTES in female patients, and to evaluate its feasibility, safety and efficacy.

METHODS: 172 female patients with a mean age of 36.3 years and a median body mass index of 26.2 kg/m², were subjected to transvaginal NOTES. In transvaginal NOTES-assisted laparoscopic procedures, a 5-mm trocar and a 10-mm trocar were inserted in the umbilical edge. A 5-mm or 10-mm trocar was inserted in the posterior vaginal fornix for a 5-mm flexible-tip 0° or 10-mm 30° laparoscope. In pure transvaginal NOTES procedures, a 30-mm incision was made at the posterior vaginal fornix, and a 5-mm trocar was introduced into the pelvic cavity. A 5-mm flexible-tip 0° laparoscope was inserted into the pelvic cavity. A Zou-Port was introduced at the posterior vaginal fornix. Dissection was performed according to the method of the standard laparoscopy. The intact specimen was extracted transvaginally.

RESULTS: Transvaginal NOTES was successfully completed in 172 patients, included 21 adrenalectomy, 124 nephrectomy, 4 nephroureterectomy, 1 nephron sparing surgery, and 1 heminephroureterectomy. Pure transvaginal NOTES procedures performed included 5 renal cyst excision, 16 nephrectomy, The mean operative time was 123, 116, 183, 188, and 87 minutes, and blood loss was 162, 94, 137, 175, and 26 ml for NOTES-assisted nephrectomy, adrenalectomy, nephroureterectomy, pure NOTES nephrectomy, pure NOTES renal cyst excision.

CONCLUSIONS: Transvaginal NOTES is feasible, safe and effective. It provides a good cosmetic outcome. However, existing instruments need improving for the development of transvaginal NOTES.

SOURCE OF FUNDING: None

MP27 ENDOUROLOGY: EDUCATION

MP27-01 MULTI INSTITUTIONAL EXPERIENCE WITH THE GREEN LIGHT SIMULATOR

Bilal Chughtai1, Art Sedrakyan1, Abby Isaacs1, Claire Dunphy1, Matthew Rutman2, Alexis Te1

1Weill Medical College of Cornell University (United States)
2Columbia University Medical Center (United States)

INTRODUCTION AND OBJECTIVES: The GreenLight Simulator is designed to emulate the experience of photoelective vaporization of the prostate. The GreenLight Simulator was developed through University of Minnesota’s Center for Research and Education in Simulation Technologies and American Medical Systems. We sought to evaluate the simulator to teach safe practices during this procedure.

METHODS: We developed a structured curriculum to evaluate the GreenLight simulator’s ability to teach safety principles to medical students, residents, and several faculty members. Over 3 months, 20 residents completed several modules and repeated the modules 3 times. Global scores, sweep speed, average laser distance, and ability to coagulate bleeders were recorded. Statistical analysis was performed with SAS v9.3 (SAS Institute Inc., Cary, NC). This was done with a random effects model adjusting for repeated measures across resident experience.

RESULTS: There were 331 trials completed on the GreenLight Simulator. There was no significant difference between sweep speed, blood loss, and average laser distance between clinical years. There was an increase in more efficient vaporization with increased clinical experience. This was also seen with increased usage of the simulator. Again, there was no correlation between sweep speed, blood loss, and average laser distance with increased usage, although users became more efficient at vaporization.

CONCLUSIONS: More clinical experience correlated with more efficient vaporization, but did not correlate with sweep speed or laser distance. The GreenLight simulator was a useful tool in teaching important safety elements of the PVP procedure.

SOURCE OF FUNDING: None

MP27-02 CROWD-SOURCED ASSESSMENT OF TECHNICAL SKILLS (C-SATS): VALIDATION THROUGH THE BASIC LAPAROSCOPIC UROLOGIC SURGERY (BLUS) CURRICULUM

Thomas Lendvay1, Bryan Comstock1, Timothy Averch2, Geoffrey Box Bodo Knudsen3, Timothy Brand4, Michael Fernandino5, Jihad Kaouk4, Jaime Landman7, Benjamin Lee9, Elspeth McDougall9, Ashleigh Menhadji8, Bradley Schwartz10, Robert Sweet Timothy Kowalewski11

However we don’t reach a broad consensus on surgical adaptation of laparoscopic adrenalectomy (LA) for elderly PA patients.

METHODS: To understand surgical advantage for elderly PA patients, we evaluated safety and effectiveness between 70 years and older PA patients and younger PA patients those who went through LA in our hospital from January 2007 to December 2013.

RESULTS: 429 LA were performed during this period, 17 patients (13 men and 4 women) aged 72 years old (70–77) for a median age have high blood pressure for 20.8 years with a median length. The median of BMI and Charlson comorbidity index was 25.3 and 1 respectively. There were not any significant differences between elderly and younger about operation time, blood loss, hospital stay and surgical complications analyzed with Clavien classification. In all patients serum aldosterone significantly decreased after LA and in 16 patients antihypertensive agents became decreasing in 35 months for a mean observation period.

CONCLUSIONS: It is necessary to compare prognosis with elderly PA patients undergoing only a medical therapy, LA was safe and effective for the treatment of elderly PA patients suffering from high blood pressure for long time.

SOURCE OF FUNDING: None
INTRODUCTION AND OBJECTIVES: Crowdsourcing is the practice of obtaining services from a large group of people; typically from an online community such as the Amazon.com Mechanical Turk Project. We hypothesized that the ‘crowd’ could score performances comparably to scores derived from expert surgeons of dry lab laparoscopic skill tasks videotaped during the AUA BLUS curriculum validation project.

METHODS: 24 candidate videos of laparoscopic skill tasks performed by surgeons of varying levels of laparoscopic case experience - 12 suturing and 12 pegboard transfer performances were evaluated by 5 faculty experts and at least 60 Amazon.com Mechanical Turk crowd-workers. Each rater provided responses to the same multi-domain rating scale from the Global Objective Assessment of Laparoscopic Skills (GOALS) tool. We compared mean global performance scores provided by experts and crowd-workers using Cronbach’s alpha and estimated performance-specific passing probabilities by cut-offs established with receiver operating characteristic (ROC) curves.

RESULTS: Within 48 hours we received 1,840 crowd-worker ratings, of which 1,438 (78.2%) passed analysis eligibility criteria for validation studies. The BLUS Peg Transfer and Suturing skill tasks showed good construct validity based on a consensus of expert faculty panel. Demographically-derived skill categories failed to provide statistically-significant skill discrimination. Blinded video GOALS evaluation did provide skill discrimination. Task time, path length, and motion smoothness (jerk cost) correlated with ground truth (p=0.69, 0.79 respectively) for Peg Transfer and 0.86, 0.91 respectively for Suturing (p<0.01). Economy of motion and force consensus depended on their definition.

CONCLUSIONS: Careful selection of skill categories is critical for validation studies. The BLUS Peg Transfer and Suturing skill tasks showed good construct validity based on a consensus of established objective metrics and blinded video review by the expert faculty panel.

SOURCE OF FUNDING: American Urological Association

MP27-04 THE SHEEP AS AN ANIMAL MODEL FOR COLLECTING SYSTEM HEALING STUDIES AFTER PARTIAL NEPHRECTOMY

Bruno Marroig1, Waldemar S. Costa1, José A. Damasceno-Ferreira1, Diogo B. De Souza1, Fábio O. Ascoli1, Marco A. Pereira-Sampaio1, Francisco J.B. Sampaio1

INTRODUCTION AND OBJECTIVES: Evaluate sheep as an animal model for studying collecting system healing after laparoscopic partial nephrectomy.

METHODS: The caudal pole of the left kidney was removed by laparoscopic partial nephrectomy in eight female adult domestic sheep. Monopolar energy was used for hemostasis only in the parenchyma, avoiding coagulation near the collecting system, which was left opened. After 14 days, all animals were euthanized and the left kidney was removed. Serum levels of urea and creatinine were assessed preoperative and postoperative (days 2, 6, 10, 14) and peritoneal fluid samples were also collected during

1University of Washington (United States)
2University of Pittsburgh (United States)
3Ohio State University (United States)
4Madigan Army Medical Center (United States)
5Duke University (United States)
6Cleveland Clinic Foundation (United States)
7University of California, Irvine (United States)
8Ohio University (United States)
9Tulane University (United States)
10Southern Illinois University (United States)
11University of Minnesota (United States)

INTRODUCTION AND OBJECTIVES: The American Urological Association created the BLUS skills tasks as an objective assessment tool to determine laparoscopic skills proficiency. Our goal was to assess the ability of these proposed tasks and metrics to objectively discriminate skill levels.

METHODS: 117 subjects participated across eight different urologic centers in the United States; all were given four dry-lab laparoscopic tasks: Peg Transfer, Cutting, Suturing, and Clip Applying. We employed the Electronic Data Generation and Evaluation platform (Simulab Corp, Seattle WA) to record synchronized video and tool motion metrics for all tasks along with proctor-recorded task errors. Two methods were used to establish ‘ground truth’ skill levels: demographically-derived status and blinded video review by five faculty urologists employing the Global Objective Assessment of Laparoscopic Skills (GOALS) instrument for a representative subset of the database (12 suturing, 12 peg transfer; maximum, median, and minimum task times). We employed Pearson’s correlation to evaluate agreement between metrics and ground truth.

RESULTS: Demographically-derived skill categories failed to provide statistically-significant skill discrimination. Blinded video GOALS evaluation did provide skill discrimination. Task time, path length, and motion smoothness (jerk cost) correlated with ground truth (p=0.79 respectively) for Peg Transfer and (p<0.01). Economy of motion and force consensus depended on their definition.

CONCLUSIONS: Careful selection of skill categories is critical for validation studies. The BLUS Peg Transfer and Suturing skill tasks showed good construct validity based on a consensus of established objective metrics and blinded video review by the expert faculty panel.

SOURCE OF FUNDING: American Urological Association