TRANSPLANT 2001

The Joint American Transplant Meeting

Postgraduate Course

Friday, May 11, 2001

Transplantation Review and Update

Session I

Chicago Ballroom 6/7, Sheraton
Chairs: Jonathon Bromberg and Gabriel Danovitch

1:30 PM – 2:10 PM	**Mechanisms of Allograft Rejection and Strategies for Monitoring Rejection** *Peter Nickerson*
2:10 PM – 2:50 PM	**Pathology of Allograft Rejection** *Lorraine Racusen*
2:50 PM – 3:30 PM	**Mechanisms of Current Immunosuppression** *Philip Halloran*
3:30 PM - 4:00 PM	**Break**
4:00 PM – 4:40 PM	**Costimulation Pathways: Basic Science and Potential Clinical Applications** *Laurence Turka*
4:40 PM – 5:20 PM	**Current Immunosuppressive Regimes in Organ Transplantation** *Gabriel Danovitch*

Saturday, May 12, 2001

Postgraduate Course (continued)

Session II

Chicago Ballroom 6/7, Sheraton
Chairs: Peter Stock and Jay Fishman

8:00 AM – 8:40 AM	**CMV and Emerging Viruses in Organ Transplant Recipients** *Jay Fishman*
8:40 AM – 9:20 AM	**Managing Hepatitis B and Hepatits C in Organ Recipients** *Anna Lok*
9:20 AM – 10:00 AM	**Current Status of Heart and Lung Transplantation** *Mark Barr*
10:00 AM – 10:30 AM	**Break**
10:30 AM – 11:10 AM	**Innovations in Liver Transplantation** *Charles Miller*
11:10 AM – 11:50 AM	**A New Era for Beta Cell Replacement: Pancreas or Islet Transplantation** *David Sutherland*

Pre-Meeting Symposia

1:00 PM – 5:30 PM — **Transplant Nurses and Coordinators Special Program**

Chicago Ballroom 9/10, Sheraton
Chairs: Trish Brennan and Cathy Garvey

1:00 PM	**Kidney Transplantation in the HIV Positive Patient** *Laurie Carlson*
2:00 PM	**Liver-Assist Device** *Christopher Freise*
3:00 PM	**Break**
3:30 PM	**Islet Cell Transplant** *Ingrid Larsen*
4:30 PM	**Living Lober Lung Transplant** *Felicia Schenkel*

1:00 PM – 3:00 PM — **Extended Donors/Allocation Symposium: Report from the Cadaver Donor Conference**

Chicago Ballroom 6/7, Sheraton
Chairs: Francis Delmonico and Bruce Rosengard

1:00 PM	**The True Benefit and Appropriate Sharing of Zero-Mismatched Kidneys** *Edward Alfrey*
1:20 PM	**Liver Donors: Avoiding Bad Cadaver Donors and Finding the Right Livers to Split** *Jean Emond*
1:40 PM	**Marginal Donors because of Malignancy or Positive Serology** *Sandy Feng*
2:00 PM	**Strategies To Increase Donor Lung Utilization** *Edward J. Garrity*
2:20 PM	**Strategies To Increase Donor Heart Utilization** *John Zariff*

1:00 PM – 3:00 PM — **Pediatrics Symposium: Transplantation in Adolescents**

Sheraton Ballroom 4/5, Sheraton
Chairs: Amir Tejani and Richard Fine

1:00 PM	**Transplantation Outcomes in Teenagers** *Ruth McDonald*
1:30 PM	**Optimal Immunosuppression in Teenagers** *Deidre Kelly*
2:00 PM	**Recurrent Disease Post-Transplantation** *Michelle Baum*
2:30 PM	**Noncompliance and Its Management in Teenagers** *Thomas Nevins*

3:00 PM – 3:30 PM — **Break**

3:30 PM – 5:30 PM — **Two Concurrent Symposia Clinical Science Symposium: Anti-Microbial Resistance In Transplant Infectious Diseases**

Sheraton Ballroom 4/5, Sheraton
Chairs: Jutta Preiksaitis and Susan Keay

3:30 PM	**Prevention and Management of Resistant Fungal Infections** *Thomas Walsh*
4:00 PM	**Prevention and Management of Resistant Bacterial Infections** *Emily Blumberg*
4:30 PM	**Pathogenesis of Gangiclovir-Resistant CMV** *Micheal Boeckh*

5:00 PM — **Evading the Immune System: Lessons Learned from Viruses**
Alexandra Lucas

3:30 PM – 5:30 PM — **Basic Science Symposium: Genomics and Proteomics Overview**
Chicago Ballroom 6/7, Sheraton
Chairs: Kenneth Drazen and Terry Strom

3:30 PM — **Gene-Discovery and Diagnostic Approach to Genomics in Clinical Research**
Minnie Sarwal

4:00 PM — **Application of Genome Expression Profiling To Understand the Pathogenesis of EBV and CMV**
Thomas Shenk

4:30 PM — **Molecular Classifiation of Tissue-Applications To Diagnosis and Prognosis**
Robert Lipshutz

5:00 PM — **Proteomics: New Technologies for Quantitation and Application to Transplant Research**
Ruedi Aebersold

TRANSPLANT 2001
The Joint American Transplant Meeting
Day-at-a-Glance, Sunday, May 13, 2001

6:30 AM - 7:50 AM — **Concurrent Sunrise Symposia**

8:00 AM — **Plenary Session I**

9:15 AM - 10:45 AM — **Concurrent Symposia**

11:00 AM - 12:00 PM — **Concurrent Sessions**

12:30 PM - 1:30 PM — **Parallel Luncheon Workshops**
Page 52 — *Sheraton and Intercontinental*

12:30 PM - 1:30 PM — **Selected Poster Sessions**
Page 52 — *Sheraton*

2:00 PM - 3:30 PM — **Concurrent Sessions**

4:00 PM - 5:30 PM — **Concurrent Sessions**

8:00 AM - 7:30 PM	Poster Session I
5:30 PM - 7:30 PM	Presenters in Attendance
	Exhibits Open *Wine and Cheese Reception* *River Exhibition Hall*
Page 63	Kidney - Acute/Chronic Rejection I
Page 63	Kidney -GVH, Complications, Infections I
Page 64	Kidney - Immunosuppresssion A I
Page 64	Kidney - Immunosuppression B I
Page 65	Kidney - Pediatrics, Recurrent Disease I
Page 65	Kidney - Preservation, Donation/Allocation, Economics/Public Policy, Surgical Techniques, and Other I
Page 66	Liver - Immunosuppression, Acute/Chronic Rejection, GVH, Pediatrics I
Page 67	Liver - Infections, Complications, Recurrent Disease, Surgical Techniques I
Page 68	Liver - Preservation, Economics/Public Policy, Donation Allocation, Other I
Page 68	Pancreas and Islets - All Topics I
Page 69	Heart/Lung - All Topics I
Page 69	Bone Marrow - All Topics I
Page 70	Immunosuppression, Preclinical Studies I
Page 70	Tolerance I
Page 71	Acute/Chronic Rejection I
Page 71	Allorecognition, Antigen Presentation, Co-Stimulation and Other I
Page 72	Lymphocyte Activation, Lymphocyte-Down-Regulation, Chemokines/Adhesion Molecules and Cytokines I
Page 72	Genetic Modulation, Islet/Cell Transplantation and Bone Marrow/GVH I
Page 73	Tissue Injury, Preservation I
Page 73	Xenotransplantation

Abstract# 245 Poster Board #-Session: P58-I

PROSPECTIVE INCEPTION COHORT ANALYSIS OF OPEN DONOR NEPHRECTOMY WITH HANDOSCOPIC AND LAPAROSCOPIC DONOR NEPHRECTOMY.

Amy D. Lu,[1] Lynt B. Johnson,[1] Jeff S. Plotkin,[1] Joseph Buell,[2] James F. Whiting,[3] William H. Marks,[4] Phil Chapman,[4] Kenneth A. Newell,[5] Paul C. Kuo.[1] *[1]Surgery, Georgetown University, Washington, DC, [2]Surgery, University of Cincinnati, Cincinnati, OH; [3]Surgery, Maine Medical Center, Portland, ME, [4]Surgery, Swedish Medical Center, Seattle, WA; [5]Surgery, University of Chicago, Chicago, IL.*

Hypothesis. To evaluate any differences among the three approaches of donor nephrectomies.

Methods. We analyzed data in a prospective inception cohort of four institutions. The laparoscopic method utilizes four 1 cm. port incisions with an additional infraumbilical incision to extract the kidney. The handoscopic method utilized a pneumosleeve device to allow for direct hand manipulation of the kidney. 251 consecutive patients were divided into three groups based on the method of donor nephrectomy. Analysis of 9 donor and outcome variables were performed. Significance was defined at $p<0.05$. Chi-square and T-test were performed where appropriate

Results. There were 109 laparoscopic cases, compared with 66 open and 76 handoscopic cases. A significant difference in operative times was seen between the handoscopic and laparoscopic cases; however there was also an increase in the conversion rate in the handoscopic cases compared to the laparoscopic (9.4% vs.4%). There was no difference in the incidence of complications among the three groups as well as no significant difference in the incidence of delayed graft function (DGF).

Cases	Number (N)	Age (yrs)	OR time (hrs min)	Conversions	DGF
Handoscopic	76	40 5±0 8	2 5±5 5*	9%*	3 4%
Laparoscopic	109	39±1 0	3 59±5 2*	4 6%*	3 7%
Open	66	31 2±1 5	2 3±0 3*		4 5%

*p<0 05

Conclusions Handoscopic donor nephrectomy shortens the operative time and may quicken the learning curve. The laparoscopic and handoscopic mehtods are effective operations compared to the traditional approach.

Abstract# 246 Poster Board #-Session: P59-I

PERCENT IMPROVEMENT IN HEART RATE VARIABILITY IN DIABETIC AND NONDIABETIC KIDNEY AND KIDNEY PANCREAS RECIPIENTS.

Ann K. Cashion ,[1] Rebecca P. Winsett,[1] Patricia F. Joplin,[1] Robert J Stratta,[2] Osama Gaber,[2] Donna K. Hathaway.[1] *[1]College of Nursing, University of Tennesee Health Science Center, Memphis, TN; [2]Dept. of Surgery, University of Tennessee Health Science Center, Memphis, TN.*

Purpose. Improvement in autonomic function as indicated by changes in heart rate variability (HRV) from pre to post transplant, regardless of transplant type, has been documented. The purpose of this study was to describe percent improvement in HRV indices from pre to 12-month posttransplant by transplant type.

Methods: Twenty-four hour HRV indices in frequency (low, LF; and high, HF) and time (standard deviation of R-R intervals, SDNN) domains were obtained from nondiabetic kidney (NonDM kidney, n=75), kidney pancreas (KP, n=26), and diabetic kidney (DM kidney, n=14) recipients with matched pre and 12 months posttransplant (postTX) data

Results: The sample was 69% men, 44% African-Am., mean aged 44 ± 11 yrs. Subgroups were similar in age and gender. PostTx adverse events did not differ by groups. As expected, overall improvement was seen from pre to posttransplant (see table). KP recipients had the lowest pre and postTx HRV indices, but improved by 21% in LF and 23% in SDNN at 12 mo postTx. While NonDM kidney recipients had the highest HRV indices at both time points, they also had the lowest percent improvement for all indices Data showed an improvement of 12% for HF and 34% for SDNN in DM kidney recipients. The SDNN increased ($p< 0.05$) for all groups.

	NonDiabetic Kidney			Kidney Pancreas			Diabetic Kidney		
	LF	HF	SDNN	LF	HF	SDNN	LF	HF	SDNN
PreTx	4 81	3 66	91	2 49	2 26	56	3 54	2 94	65
12 mo PostTx	5 07*	3 82	111*	3 16*	2 45	72*	3 88	3 36	98*
Improvement	5%	4%	18%	21%	7%	23%	9%	12%	34%

*p≤0 05 from pre to post

Conclusions: Patients with diabetes and renal failure have more compromised autonomic function than patients with renal failure alone and they show the greatest percent improvement at 12 mo. postTx, regardless of transplant type. Further study is needed to determine if this trend continues. While improvement is reported in sympathetic and parasympathetic (LF, HF) modulation, it is important to note that for all transplant types significant improvement is seen in SDNN, a marker for increased risk for sudden cardiac death in other populations.

Abstract# 247 Poster Board #-Session: P60-I

ENHANCED CHARACTERIZATION OF PRE-SENSITIZATION STATUS IN KIDNEY TRANSPLANT CANDIDATES USING SENSITIVE TECHNIQUES.

Antonina Piazza, Elvira Poggi, Giuseppina Ozzella, Palmina I. Monaco, Simona Servetti, Carlo U. Casciani, Domenico Adorno. *[1]CNR - Inst. Tissue Typing, Rome, Italy.*

A careful characterization of HLA antibodies (Abs) in potential transplant recipients avoids risk of early rejection and improves graft survival in kidney transplantation. This study aimed at investigating the sensitization status due to different sources of immunization in transplants candidates using the sensitive and specific FlowPRA beads (One Lambda Inc, CA) technique.

Among 838 kidney transplant recipients, periodically screened for alloantibody production using FlowPRA class I and class II Screening method (a pool of 30 beads coated with different purified HLA class I or class II antigens), only the 221 patients (pts) exposed to a single kind of immunizing event were enrolled in the study. Our patient population was divided into three groups according to the type of immunizing event: Ts-group (107 transfused pts); Tx-group (39 previously transplanted pts), Pg-group (75 pts who had pregnancies/abortions). In order to define the HLA specificity of the detected Abs, FlowPRA class I and class II Specific assays (four groups of eight beads coated with different purified HLA class I or II antigens) were used.

FlowPRA Screening results showed a significantly higher incidence of sensitized pts in the Tx-group (38.5%, $p<0.00001$) and in the Pg-group (25.3%, $p<0.00001$) than in the Ts-group (2.8%). We moreover highlighted a great incidence of HLA class II Abs not only in the Tx-group (73.3%), but also in the Pg-group (52.6%).

Analysis of HLA class I Abs specificity showed a high incidence of CREG Abs (mainly against CREG 1C) both in the Pg-group (93.7%) and the Tx-group (85.7.5%). Remarkably 8 of the 20 (40%) CREG-specific Abs evidenced in the sera of the Pg pts and 6 of the 14 (42.8%) found in the Tx pts were intra-CREG Abs. As regards HLA class II specificity, our study evidenced that Abs directed towards a public antigen (DR51, DR52, DR53) were present in 40% of the Pg pts and 18% of the Tx pts.

In conclusion our data demonstrated that transplants and pregnancies had a similar strong immunogenicity as regards incidence and intensity of sensitization and Abs specificity. Moreover, the finding of an elevated production of HLA class I intra-CREG Abs and HLA class II Abs directed toward public-antigens in patients sensitized only by pregnancies, indicates that this kind of immunizing event has a high immunogenic capacity, which must be thoroughly investigated before transplantation using sensitive and specific techniques.

Abstract# 248 Poster Board #-Session: P61-I

QUALITY OF LIFE IN RENAL TRANSPLANT PATIENTS WITH FUNCTIONING GRAFTS; THE STORY UNDERNEATH.

Argiris Asderakis,[1] Christopher Brown,[2] Phil Dyer,[2] Robert W.G. Johnson.[2] *[1]Transplant Unit, University Hospital of Wales, Cardiff, United Kingdom, [2]Renal Transplant Unit, Manchester Royal Infirmary, Manchester, United Kingdom.*

Aim: To measure the subjective QOL(Quality of Life)of patients with functioning kidney grafts and associate it with risk factors including the use of maintenance steroids.

Patients and methods: 103 renal transplant patients with functioning grafts at least 1year post-transplant were interviewed by using 3 instruments of measurement of QOL: Kidney Transplant Questionnaire (KTQ) - a disease specific questionnaire, SF36 - a generic health questionnaire for chronic illness, and EORTC health thermometer. Patients with an acute infection, acute rejection or cardiac event in the last 4 weeks were excluded.

Results:54.4% of patients were receiving maintenance steroids. The total KTQ score was 138.8(±24.5). A worse total KTQ, was associated with a creatinine over 200mm/l (p=0.02), treatment with steroids (p=0.03) but not with sex, age group and mode of dialysis treatment pre-transplant. A worse appearance score in KTQ was more common in females (p=0.04), patients on steroids (p=0.1), and patients with a creatinine over 200μm/l (p=0.05). A worse score in the physical dimension of the SF-36 was associated only with an age over 55 years (p=0.006), but not with other variables. The use of steroids was associated with a worse score in the emotional dimension of both KTQ (p=0.08) and the SF-36 (p=0.08). The perception about their health measured by SF-36 was worse in patients on steroids (p=0.01). Patients with a creatinine over 200μm/l had less vitality (p=0.04) than the rest. The mean Health Thermometer score was 69.85 (±18.4) and was significantly reduced with increased age (p=0.04), creatinine over 200μm/l (p=0.07), CAPD use before the transplant as opposed to haemodialysis or no dialysis (p=0.04), and the use of maintenance steroids (p=0.04).

Conclusion: Kidney transplant patients have a good subjective QOL as measured by various scoring systems. Their age seems to be affecting only the physical dimension of those scores. In contrast the use of maintenance steroids seem to be adversely affecting the quality of life in multiple dimensions (physical, emotional, appearance) as well as the overall perception of the patients about their health prospects. Patients with a creatinine over 200μm/l seem to have more physical problems, less vitality and worse overall health. Good kidney function on a steroid free regimen seems to be the ideal solution for a good quality of life following renal transplant.

P40 **A PROSPECTIVE MULTICENTER STUDY DEMONSTRATES SAFETY AND EFFICACY OF PERIPHERAL VEIN ADMINISTRATION OF THYMOGLOBULIN FOR INDUCTION IMMUNOSUPPRESSION. (Abstract #227)**
Robert Steiner, Douglas Norman, David Cohen. San Diego, CA; OR.

P41 **LONG TERM BENEFITS AND SIDE EFFECTS OF CICLOSPORIN (CYA) TO MYCOFENOLATE MOFETIL (MMF) CONVERSION IN RENAL TRANSPLANT PATIENTS. (Abstract #228)**
H. François, M. Ammor, R. Djeffal, V. Paradis, F. Kriaa, A. Durrbach, B. Charpentier. Le Kremlin Bicetre, France.

P42 **CYCLOSPORIN-A BLOOD CONCENTRATION AT 2 HOURS IS THE BEST PARAMETER TO CALCULATE AREA UNDER THE TIME-CONCENTRATION CURVE (0 TO 4 HOURS). (Abstract #229)**
Elias David-Neto, Zita M.L. Britto, Cristiane F. Alves, Francine C. Lemos, William C. Nahas, Luis E. Ianhez. Sao Paulo, Sao Paulo, Brazil.

P43 **EFFECT OF LIVING RELATED DONOR BONE MARROW INFUSION ON CHIMERISM IN KIDNEY TRANSPLANT PATIENTS. (Abstract #230)**
Gaetano Ciancio, Joshua Miller, Rolando Garcia-Morales, George W. Burke, Camillo Ricordi, Andreas Tzakis, Violet Esquenazi. Miami, FL.

P44 **EFFICACY AND SAFETY OF DACLIZUMAB INDUCTION FOR PRIMARY KIDNEY TRANSPLANT RECIPIENTS IN COMBINATION WITH TACROLIMUS, MYCOPHENOLATE MOFETIL AND STEROIDS AS MAINTENANCE IMMUNOSUPPRESSION. (Abstract #231)**
Gaetano Ciancio, George W. Burke, Audrey Miller, Kiliana Suzart, Jose Figueiro, Anne Rosen, David Roth, Warren Kupin, Joshua Miller. Miami, FL.

P45 **A COMPARISON OF FIBROGENIC GENE mRNA LEVELS IN RENAL TRANSPLANT BIOPSIES TAKEN FROM PATIENTS ON A RANDOMISED TRIAL OF AZATHIOPRIN VERSUS MYCOPHENOLATE MOFETIL. (Abstract #232)**
Gareth R. Bicknell, Sunjay Jain, Michael L. Nicholson.

P46 **DACLIZUMAB AND MYCOPHENOLATE MOFETIL REDUCE THE NEED FOR CYCLOSPORINE WITHOUT INCREASING RISK FOR ACUTE REJECTION IN RENAL TRANSPLANTATION. (Abstract #233)**
Gordon R. Ingle, Asha Moudgil, Ashley Vo, Stanley C. Jordan. Los Angeles, CA.

P47 **WHICH PATIENTS BENEFIT FROM CYCLOSPORINE WITHDRAWAL FOLLOWED BY SIROLIMUS (RAPAMUNE®) MAINTENANCE THERAPY? (Abstract #234)**
Henri Kreis, José M. Morales, Peter Morris, Antonio Henriques, Pierre Daloze, Giuseppe Segolini, Uwe Heemann, Eric Nègre, the Sirolimus Tri-continental Renal Transplant Study Group. Paris, France.

Kidney - Pediatrics, Recurrent Disease I

P48 **COMPARISON OF POST TRANSPLANT LYMPHO PROLIFERATIVE DISORDERS (PTLD) IN CHILDREN UNDER CYCLOSPORINE AND TACROLIMUS, 766 CONSECUTIVE RECEIPIENTS: 15 YEARS EXPERIENCE. (Abstract #235)**
Ashok B. Jain, George Mazariegos, Randeep S. Kashyap, Cataldo Doria, Mike Nalesnik, Jorge Reyes.

P49 **ANALYSIS OF HYPERLIPIDEMIA IN CHILDREN WITH KIDNEY TRANSPLANTS. (Abstract #236)**
Maria Hardstedt, Kristen Gillingham, Blanche M. Chavers.

P50 **SUPERIOR DEATH-CENSORED RENAL ALLOGRAFT SURVIVAL IN OXALOSIS PATIENTS WITH A LIVER TRANSPLANT. (Abstract #237)**
Diane M. Cibrik, Bruce Kaplan, Julie A. Arndorfer, Akinlolu Ojo, Alan B. Leichtman, Herwig-Ulf Meier-Kriesche. Ann Arbor, MI.

P51 **EFFECTIVENESS OF TACROLIMUS IN PREVENTING THE RECURRENCE OF IgA NEPHROPATHY AFTER RENAL TRANSPLANTATION. (Abstract #238)**
Yoshihiko Watanabe, Kazunari Tanabe, Tadahiko Tokumoto, Hiroaki Shimmura, Hiroshi Nihei, Hiroshi Toma. Tokyo; Tokyo, Japan.

P52 **CYCLOSPORINE PHARMACOKINETICS UNALTERED BY BASILIXIMAB IN PEDIATRIC RENAL TRANSPLANT RECIPIENTS. (Abstract #239)**
J. M. Kovarik, L. Chodoff, A. Korn. East Hanover, NJ.

Kidney - Preservation, Donation/Allocation, Economics/ Public Policy, Surgical Techniques, and Other I

P53 **HAND-ASSISTED LAPAROSCOPIC LIVE DONOR NEPHRECTOMY: THE OHIO STATE UNIVERSITY EXPERIENCE. (Abstract #240)**
Aamer Ar'Rajab, Ronald P. Pelletier, Mitchell L. Henry, Elmahdi A. Elkhammas, Ginny L. Bumgardner, Elizabeth A. Davies, Ronald M. Ferguson.

P54 **WHO BECOMES A NON-DIRECTED KIDNEY DONOR? (Abstract #241)**
Cheryl Jacobs, Deborah Roman, Catherine Garvey, Abhi Humar, Arthur Matas. Minneapolis, MN.

P55 **KIDNEY CANCERS IN RENAL TRANSPLANT RECIPIENTS. (Abstract #242)**
Christopher Gran, John Hulbert, Ken Roberts, Sid Jain, Arthur Matas, Abhi Humar. Minneapolis, MN; Minneapolis, MN.

P56 **CV EVENTS AND DEATH ON PROVINCIAL RENAL TRANSPLANT WAITING LIST (RTXWL): THE BC EXPERIENCE. (Abstract #243)**
A. Levin, D. Landsberg, L. Siosan, L. Venables, L. Liu, J. Gill, W. Gourlay. Vancouver, BC, Canada; Vancouver, BC, Canada; Vancouver, BC, Canada.

P57 **LONG-TERM OUTCOME OF RENAL TRANSPLANTATION IN RECIPIENTS OLDER THAN 65 YEARS. (Abstract #244)**
Amado Andres, Juan C. Herrero, Jose M. Morales, Teresa Ortuño, Beatriz Domíguez, Eduardo Hernandez, Manuel Praga. Madrid, Spain.

P58 **PROSPECTIVE INCEPTION COHORT ANALYSIS OF OPEN DONOR NEPHRECTOMY WITH HANDOSCOPIC AND LAPAROSCOPIC DONOR NEPHRECTOMY. (Abstract #245)**
Amy D. Lu, Lynt B. Johnson, Jeff S. Plotkin, Joseph Buell, James F. Whiting, William H. Marks, Phil Chapman, Kenneth A. Newell, Paul C. Kuo. Washington, DC; Cincinnati, OH; Portland, ME; Seattle, WA; Chicago, IL.

P59 **PERCENT IMPROVEMENT IN HEART RATE VARIABILITY IN DIABETIC AND NONDIABETIC KIDNEY AND KIDNEY PANCREAS RECIPIENTS. (Abstract #246)**
Ann K. Cashion, Rebecca P. Winsett, Patricia F. Joplin, Robert J. Stratta, Osama Gaber, Donna K. Hathaway. Memphis, TN; Memphis, TN.

P60 **ENHANCED CHARACTERIZATION OF PRE-SENSITIZATION STATUS IN KIDNEY TRANSPLANT CANDIDATES USING SENSITIVE TECHNIQUES. (Abstract #247)**
Antonina Piazza, Elvira Poggi, Giuseppina Ozzella, Palmina I. Monaco, Simona Servetti, Carlo U. Casciani, Domenico Adorno. Rome, Italy.

P61 **QUALITY OF LIFE IN RENAL TRANSPLANT PATIENTS WITH FUNCTIONING GRAFTS; THE STORY UNDERNEATH. (Abstract #248)**
Argiris Asderakis, Christopher Brown, Phil Dyer, Robert W.G. Johnson. Cardiff, United Kingdom; Manchester, United Kingdom.