SAN RAFFAELE
chronicle:
Milano, 10 maggio 2019

I.R.C.C.S. Ospedale San Raffaele

XVI San Raffaele Transplant Meeting

Ospedale San Raffaele, 10 maggio 2019

THE SAN RAFFAELE chronicle:

Breaking news and analysis on hot topics in kidney transplantation, beta cell replacement and diabetes

Hyperglycemia is the main pathogenic factor underlying the development of secondary complications of diabetes. Pancreas transplantation (PTx), either alone or combined with kidney transplantation, rapidly restores euglycemia in insulin-dependent diabetic individuals. This chapter will review the effects of PTx on the main microvascular and macrovascular secondary complications of diabetes, namely nephropathy, neuropathy, retinopathy and cardiomyopathy. Although PTx provides some early benefits and halts the progression of certain complications, long-term euglycemia after PTA is needed to improve several outcomes. The long-term goal of pancreas transplantation (PTx) is to achieve glycaemic control, but also the prevention, improvement or stabilization of secondary complications. The DCCT showed that intensive insulin therapy, when compared with "conventional therapy" dramatically reduced the incidence and progression of the microvascular complications of diabetes, nephropathy, neuropathy, and retinopathy.

Diabetic kidney disease (DKD) is a microvascular complication of diabetes, affecting 20-40% of patients with diabetes. DKD is the leading cause of chronic and end-stage-renal disease worldwide. The diagnosis of DKD is clinical, based on the presence of albuminuria and/or reduced estimated glomerular filtration rate (eGFR) in the absence of signs or symptoms of other primary causes of kidney damage. The annual incidence of microalbuminuria and albuminuria is ~ 2-8% among individuals with diabetes. The incidence of developing eGFR < 60 ml/min/1.73 m^2 is ~ 2-4% per year. DKD can progress to end-stage renal disease (ESRD) requiring dialysis or kidney transplantation. Furthermore, the presence of chronic kidney disease and even the development of microalbuminuria or macroalbuminuria markedly increase cardiovascular risk in patients with diabetes. Hyperglycemia plays a critical role in DKD initiation, although hyperlipidemia and insulin resistance may also contribute. Furthermore, arterial hypertension is a strong risk factor for the development and progression of DKD.

Breaking news and analysis on hot topics in kidney transplantation, beta cell replacement and diabetes

Programma di Ricerca Strategica Trapianti
Direttore: *Antonio Secchi*

U.O. Chirurgia dei Trapianti e Metabolico-Bariatrica
Direttore: *Carlo Socci*

Gruppo San Donato

Gentili Colleghi,

anche quest'anno si terrà al San Raffaele l'abituale Meeting sui trapianti.

Il focus di questa edizione sarà sulle più recenti novità e sulle prospettive future nei settori del trapianto di rene, pancreatico e di cellule insulari.
I centri più rappresentativi in Italia e nel mondo ci aggiorneranno sulle novità salienti in questo ambito.

Anche quest'anno è previsto un premio finanziato da ***OSRTRAPIANTI.org (www.osrtrapianti.org)****, che andrà alla comunicazione scientifica più interessante ed innovativa nel campo del trapianto di rene, di pancreas e di insule pancreatiche.*
Sollecitiamo tutti i partecipanti a sottomettere un abstract da inviare alla segreteria organizzativa. L'abstract migliore sarà presentato dagli autori durante il congresso e premiato con 500 Euro.
Il paper, insieme all'iscrizione, dovrà pervenire entro il 19 aprile 2019.

La partecipazione al meeting è gratuita; saremo lieti di ospitarLa ai lavori congressuali e al lunch.

Antonio Secchi ***Carlo Socci***

CON IL PATROCINIO DI

SOCIETÀ ITALIANA
DI DIABETOLOGIA

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D'ORGANO E DI TESSUTI

Scientific Program

Mesangial expansion and glomerular basement membrane thickening are the most commonly observed DKD lesions, although loss of podocytes is also a critical step in the development of DKD. Furthermore, podocytes cannot be replaced, i.e. their loss and injury represent an irreversible step in disease progression. Nodular glomerulosclerosis with classic Kimmelstein-Wilson nodules, a later finding in the natural history of DKD, is a highly specific, although less sensitive feature of DKD. The pathologic classification divides DKD into four hierarchical glomerular lesions with a separate evaluation for degrees of interstitial and vascular involvement. The epidemiology of DKD has not changed over time, with prevalence rates being stable from 1988. Approximately 30% of patients with type 1 diabetes mellitus and approximately 40% of patients with type 2 diabetes mellitus develop DKD. By 30 years' duration of type 1 diabetes, the cumulative incidence of ESRD ranges from 2% to 35%. However, these numbers have largely decreased in recent years, the incidence of ESRD ranging from 2% to 15% in individuals with type 1 diabetes for 30 years.

The landmark The Diabetes Control and Complications Trial (DCCT) in patients with type 1 diabetes demonstrated that for every 10% reduction in HbA1c (e.g., 8 to 7.2) the risk of microalbuminuria (or worse) was reduced by 25%, and the risk of macroalbuminuria or worse by 44%. Furthermore, strict glycemic control obtained with intensive diabetes therapy was shown to slow the decline in GFR over time, indicating a pivotal role for adequate glycemic control. As glomerular structure is completely subverted in the later stages of DKD, with loss of podocytes and lobular transformation of the glomerular basement membrane, interventions aimed at preventing the development and progression of DKD should be implemented at the earliest stages of disease. The American Diabetes Association recommends regular monitoring of albuminuria and eGFR and optimization of glucose and blood pressure control to reduce the risk or slow the progression of DKD.

A number of studies have assessed the effect of PTx alone (PTA) on native kidney function and/or histology. These studies differ in terms of design (uncontrolled or controlled), follow-up duration (from 1 to 12 years), sample size, type of surgery (enteric or bladder drainage for exocrine secretion), outcome measures (glomerular filtration rate measured or estimated with different formulas), immunosuppressive regimens. Most studies showed a decline in glomerular filtration rate after PTA. At one year after PTA, renal function (as estimated

09.00 Saluti di benvenuto

EDITORIAL

09.30 **Introduzione**
A. Secchi, C. Socci

EARLY MORNING EDITION

Chair: *F. Citterio, E. Minetti*

CRIME

10.00 **Le infezioni e i vaccini**
R. Burioni

CULTURE

10.30 **Aspetti filosofici della donazione**
M. Cacciari

BREAKING NEWS

Chair: *P. Maffi, S. Sandrini*

11.00 **Cell therapy in diabetes: safe? Feasible? Effective?**
L. Piemonti

11.30 **Glucose lowering therapy in patients with CKD**
S. Marshall

LUNCH EDITION

Chair: *G. Piccolo, C. Socci*

POLITICS

12.00 **Nuovo algoritmo di assegnazione degli organi**
M. Cardillo

12.30 **Tacrolimus as a single agent in kidney transplantation: feasible? Safe? Effective?**
G. Stallone

SOCIETY

13.00 **Obesità: la gestione prima e dopo il trapianto**
C. Conte

13.30 *Lunch*

AFTERNOON EDITION

Chair: *R. Caldara*

SPORTS

Chair: *L. Biancone, E. Capocasale*
Referee: *P. Rigotti*

15.00 **Il match: macchine perfusione vs biopsie**
C. Socci vs G. La Manna

TECHNOLOGY

16.00 **Breaking news in immunosuppression**
C. Legendre

16.30 **The role of proteomics in kidney transplantation and its impact on immunosuppressive strategies**
G. Grandaliano

17.00 Conclusioni

17.30 Compilazione questionario ECM

by glomerular filtration rate) was either reported to remain stable or deteriorate significantly. Even when no statistically significant difference in renal function parameters was observed, a clinically meaningful proportion of patients (25%) developed substantial deterioration in renal function, with one patient requiring dialysis. Conversely, a significant reduction of average urinary excretion rate and regression of proteinuria in several patients 1 year after transplantation was reported by Coppelli and colleagues. Studies with longer follow-up consistently showed a decline in GFR. A recent, retrospective controlled study that included 79 recipients of a PTA and 84 non-transplanted type 1 diabetic subjects who were candidates for PTA, all with an estimated GFR ≤ 60 ml/min/1.73m^2, reported that mean estimated GFR was significantly lower in the PTA group during follow-up, and a significantly higher percentage of patients in the PTA group developed ESRD, suggesting that there is a considerable risk for deterioration in PTA recipients compared with non-transplanted controls.
Several studies sought to identify factors that affect renal function after PTA. Among these, high levels of calcineurin inhibitors (CNI) after PTA and pre-transplant renal function (GFR <90 or <60 ml/min/1.73m^2 or creatinine levels >1.5 mg/dL) appear to be the most important predictors of renal function after PTA. High body mass index (BMI), diabetes duration at transplant, female gender and younger age have also been associated with worse renal outcomes after PTA. The type of exocrine drainage does not appear to affect renal outcomes in PTA recipients. Very few studies investigated whether PTA induces histological changes in the glomerulus. In their seminal study, Fioretto and colleagues demonstrated that thickness of the glomerular and tubular basement membranes was significantly decreased as compared to the same measurements at baseline and 5 years. In some patients, the mesangial volumes had returned to normal, and nodular glomerular lesions had disappeared. The albumin excretion rate did not change significantly during the study, but correlated with the change in mesangial fractional volume during the 10 years of follow-up. Mean creatinine clearance declined over the first 5 years after PTA, but stabilized thereafter. It has also been shown that 10 years of euglycemia after PTA may reverse the expansion of glomerular interstitial extracellular matrix, and lead to reabsorption of atrophic tubules, while the proportion of sclerotic glomeruli appears to remain stable over time.

Faculty

Luigi Biancone
A.O.U. Città della Salute e della Scienza, Torino

Roberto Burioni
Università Vita-Salute San Raffaele, Milano

Massimo Cacciari
Università Vita-Salute San Raffaele, Milano

Rossana Caldara
Ospedale San Raffaele, Milano

Enzo Capocasale
Azienda Ospedaliero-Universitaria di Parma

Massimo Cardillo
Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milano

Franco Citterio
Università Cattolica del Sacro Cuore, Roma

Caterina Conte
Università Vita-Salute San Raffaele, Milano

Giuseppe Grandaliano
Università di Foggia

Gaetano La Manna
Università di Bologna

Christophe Legendre
Assistance Publique Hôpitaux de Paris, France

Paola Maffi
Ospedale San Raffaele, Milano

Sally Marshall
Newcastle University, UK

Enrico Minetti
ASST Grande Ospedale Metropolitano Niguarda, Milano

Giuseppe Piccolo
Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milano

Lorenzo Piemonti
Università Vita-Salute San Raffaele, Milano

Paolo Rigotti
Università degli Studi di Padova

Silvio Sandrini
ASST Spedali Civili di Brescia

Antonio Secchi
Università Vita-Salute San Raffaele, Milano

Carlo Socci
Ospedale San Raffaele, Milano

Giovanni Stallone
Università di Foggia

Informazioni Generali

Sede congressuale

Aula San Raffaele (Settore B)
Ospedale San Raffaele - Via Olgettina 60 - 20132 Milano

Segreteria Scientifica

U.O. Medicina Interna e dei Trapianti
Ospedale San Raffaele, Milano

Dott.ssa Rossana Caldara
e-mail: caldara.rossana@hsr.it

Dott.ssa Paola Maffi
e-mail: maffi.paola@hsr.it

Segreteria Organizzativa

Acheloís
Professional Congress Organiser
Via Olgettina 58 - 20132 Milano
Tel. 02 2643 3988 - Fax 02 2643 3754
e-mail: greta.perotti@achelois.eu
ACHELOÍS - Professional Congress Organiser

ECM

L'evento sarà inserito nel programma nazionale di Educazione Continua in Medicina per le seguenti categorie professionali:

- Medici Chirurghi specialisti in Allergologia ed immunologia clinica, Anatomia patologica, Anestesia e rianimazione, Biochimica clinica, Chirurgia generale, Chirurgia vascolare, Endocrinologia, Malattie metaboliche e diabetologia, Medicina e chirurgia di accettazione e di urgenza, Medicina interna, Nefrologia, Patologia clinica, Radiodiagnostica
- Farmacisti
- Infermieri

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Iscrizioni

La partecipazione al meeting è gratuita previa registrazione al link:

http://achelois.onlinecongress.it/TransplantMeeting2019