Marco Quaglia

Curriculum vitae

PERSONAL DATA

Born in Torino, March 4, 1973
Adress: Torino, Via Nizza 179.
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BIO AND EDUCATION

1992 Maturità Classica (60/60) and "Certificate of Proficiency in English" (University of Cambridge)
1998 Degree in Medicine at University of Torino (110/110 cum laude and printing dignity)
1999 Statal professional qualification as MD
2003 Specialty in Nephrology at University of Torino (70/70 cum laude)
2004-2005 professional contract at Nephrology and Transplant Unit of "Maggiore della Carità" Hospital of Novara.
2005 Master in Organ Transplant Science (University of Padova)
2005-2010 MD at Nephrology Unit of "Edoardo Agnelli" Hospital of Pinerolo.
Since 10/1/2010 MD at Nephrology and Transplant Unit of "Maggiore della Carità"Hospital of Novara. Responsible for Nephrological Ward.
2010-2012 Master in Clinical Management of renal transplant (Università Cattolica del Sacro Cuore, Rome).

Author of around 100 publications since 1999; Citation Index: 796; Hirsch-Index (H-i): 16. Lecturer in over 50 National and International Congresses

UNIVERSITY CAREER

2010-	Researcher at Università del Piemonte Orientale

UNIVERSITY POSITIONS

2015-	Member of Scientific Commitee for ECM accreditation of scientific Congresses at University of Piemonte Orientale Member of Technical-Scientific Commitee of IRCAD ("International Research Center for Autoimmune Disease")

SCIENTIFIC POSITIONS

2016	Reviewer for "Minerva Nefrologica e Urologica"
2015	Member of Editorial Board of "Tecniche Nefrologiche e Dialitiche". Lecturer at "Master in Nephropathology" (Prof Ferrario, University of Milano-Bicocca).
2003	Member of "Società Italiana di Nefrologia" and of "Gruppo di Studio di Immunopatologia Renale"

MAIN FIELDS OF INTEREST

1. Genetic polimorphisms in renal transplant
2. Rare nephropathies
3. Biomarkers in lupus nephritis
4. Biomarkers in renal transplant
5. Viral infections and skin cancer in renal transplant

CURRENT ISSUES OF RESEARCH

1. **The role of genetic polymorphisms in complications of renal transplant**

   Retrospective study, performed in collaboration with Dipartimento di Scienze Chimiche Alimentari Farmaceutiche e Farmacologiche (Prof Genazzani), with the aim of analysing correlations between genetic polymorphisms and renal transplant complications (Tx). *TCF7L2 rs7903146 C>T* polymorphism is associated to post-transplant diabetes mellitus (PTDM) and cardiac ischemic events. MDR 1 C3435T and Cyp3A5 1/3 polymorphisms appear to modulate Tacrolimus metabolism and risk of post-transplant lymphoprolipherative disorders (PTLD). These results show the impact of genetic background on important renal transplant complications and suggest the possibility of early identification of at-risk patients to prevent them.

2. **Belated diagnosis of rare nephropathies after renal transplant.**

   Retrospective study of cases of belated diagnosis of rare genetic nephropathies in patients who received renal transplant (Tx) at our Center, in collaboration with Medical Genetics of DiSS (Prof.ssa M.Giordano).

   In over 30% of renal transplant recipients there was no diagnosis of causal nephropathy. Prevalence of genetic nephropathies in this population has been 5%. Genetic nephropathies diagnosed after Tx included 2,8-dehydroxyadenine (2,8 DHA), HNF-1β- and uromodulin (UMOD)-associated nephropathy, Fabry disease, FSGS due to Formin mutation (INF2); Senior-Loken syndrome.

Renal translanted pstients without a diagnosis of causal nephropathy are a population in which prevalence of rare genetic nephropathies can be higher than expected, with important consequences on Tx management.

3. **The search for biomarkers in glomerulonephritis secondary to autoimmune systemic disorders: Osteopontin (OPN), soluble urokinase-like Plasminogen Activator Receptor (suPAR), soluble tyrosino-kinasic receptor Mer (sMer) and soluble Inducible T cell Costimulator (sICOS).**

   A growing interest is emerging towards pleiotropic cytokines, such as OPN and suPAR, and mediators involved in apoptosis, such as sMer and ICOS. In collaboration with Lab. of Immunology of DiSS (Prof U.Dianzani), we performed a comparative analysis of serum levels of OPN and suPAR in 3 populations – a) Autoimmune Systemic disorders (n = 151); b) Primary Glomerulonephritis (GN) (n = 46); c) healthy controls (n= 138) – to study correlations between serum levels of these two markers e clinical-laboratory parameters.

   suPAR and OPN are significantly higher in Autoimmune Systemic disorders compared with healthy controls and are associated with presence of renal failure and proteinuria. Analysis of sMER in patients with lupus nephritis (Lab. of Immuno-rheumatology of DiMeT, Prof Avanzi) have brought out an indipendent association between elevated levels and immunologicical activity (SLEDAI) and proteinuria. Analysis of plasma sICOS in the same population is in progress (Lab. of Immunology, Prof Dianzani).

   All these mediators represent potential biomarkers, which could allow early identification LES patients at risk for renal involvement.

4. **The quest for biomarkers of acute subclinic rejection in renal transplant: from NGAL to "omics".** Since 2010 we are taking part to a multicentric italian study ("RAS": acute subclinical rejection) with the aim of investigating correlations between tra histological lesions observed at protocol renal biopsies performed on renal transplanted patients and the proteomic and transcriptomic profile at tissue, plasma and urinary level, with the aim of identifying biomarkers of acute subclinical rejection. Over 60 patients were enrolled at our Center so far. Analysis of urinary NGAL, a marker of tubular damage, to assess predictive value in acute rejection in also in progress. In perspective, biomarkers could integrate information from renal biopsy or even make it redundant for the diagnosis of acute subclinical rejection.

5. **The role of human β-Papillomavirus (β-HPV) nelle lesioni cutanee dei pazienti trapiantati di rene.** Squamous Cell Carcinoma (SCC) and Basal Cell Carcinoma (BCC) are frequent in renal transplant (Tx). β-HPV appears to be involved in the pathogenesis of these forms, being a latent virus which can reactivate under immunosuppression. This study is being carried out in collaboration with Dermatological Clinic (Prof.ssa Savoia), Lab. of Virology (Prof.ssa Gariglio), Pathology (Prof Boldorini) and Epidemiology (Prof Magnani), with the aim of defining clinical and biological predictors of the risk of developing skin tumors after Tx. In over 150 samples of tumoral skin lesions cutanee from Tx recipients PCR analysis showed a high prevalence of β-HPV (85%). Employment of monoclonal antibodies against viral proteins E4 and L1 has brought out an active viral replication in 4/19 attinic cheratosis, in 1/14 SCC and 1/31 BCC. There is an active replication of β-HPV in a significant proportion pre-neoplastic lesions in Tx recipients, supporting its role in carcinogenesis.

CURRENT FUNDED PROJECTS

BANDO	TITOLO DEL PROGETTO
Bando Ricerca Finalizzata 2011-2012.	"Vitamin D deficiency and obesity after kidney transplantation: multicenter study on gene-environment interactions leading to "complex-phenotypes" in a human system associated with cardiovascular events and graft rejection." **Codice Progetto: RF-2011-02351876**
Bando Interno Università del Piemonte Orientale 2012	"Urinary proteomics as a tool to discover new biomarkers of delayed graft function in renal transplant: first phase of a collaborative translational research".

TOP FIVE PAPERS

1. Risk management of renal biopsy: 1387 cases over 30 years in a single centre. P Stratta, C Canavese, M Marengo, P Mesiano, L Besso, M Quaglia, D Bergamo, G Monga, G Mazzucco, G Ciccone. Eur J Clin Invest 2007; 37(12): 954-963.

2. Unexpectedly high prevalence of rare genetic disorders in kidney transplant recipients with an unknown causal nephropathy. Quaglia M, Musetti C, Ghiggeri GM, Fogazzi GB, Settanni F, Boldorini RL, Lazzarich E, Airoldi A, Izzo C, Giordano M, Stratta P. Clin Transplant. 2014;28(9):995-1003.

3. Osteopontin circulating levels correlate with renal involvement in systemic lupus erythematosus and are lower in ACE inhibitor-treated patients. Quaglia M, Chiocchetti A, Cena T, Musetti C, Monti S, Clemente N, Dianzani U, Magnani C, Stratta P. Clin Rheumatol. 2014;33(9):1263-71.

4. The role of TCF7L2 rs7903146 in diabetes after kidney transplant: results from a single center cohort and meta-analysis of the literature. M Quaglia, S Terrazzino, C Musetti, S Cargnin, G Merlotti, T Cena, P Stratta, A Genazzani. Transplantation. 2015 Nov 21 [Epub ahead of print]

5. Soluble Urokinase Receptor and Chronic Kidney Disease. Quaglia M, Musetti C, Cantaluppi V. N Engl J Med. 2016;374(9):890.

AWARDS

FURTHER INFORMATION