RETROSPECTIVE STUDY ON RECURRENT GLOMERULONEPHRITIS IN THE TRANSPLANTED KIDNEY: OUR CASE STUDY

L. Argentiero, A. Schena, M. Rossini, C. Manno, G. Castellano, M. Martino, A. Mitrotti, M. Giliberti, C. Digiorgio, AM Di Palma, Battaglia, P. Ditonno, G. Grandaliano, L. Gesualdo

U.O. di Nefrologia- Azienda Ospedaliero- Universitaria Policlinico di BARI- ITALY

OBJECTIVES

Despite advances in prevention of acute rejection and improved short- and long-term kidney graft survival, recurrent glomerulonephritis remains problematic and poorly characterized. Few data are available on the impact of glomerulonephritis on the transplanted kidney. The risk factors are largely unknown or imprecise. Moreover, the occurrence of glomerunephritis is very difficult to predict.

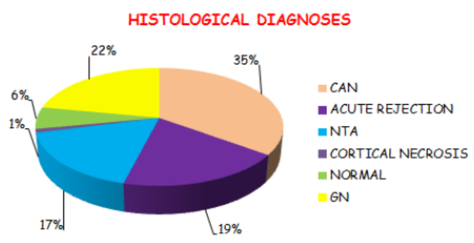
•This study analyzed the incidence of various histological types of recurrent glomerulonephritis (RGN) in our center in the last twenty years. It also sought to identify the potential risk factors for recurrence.

METHODS

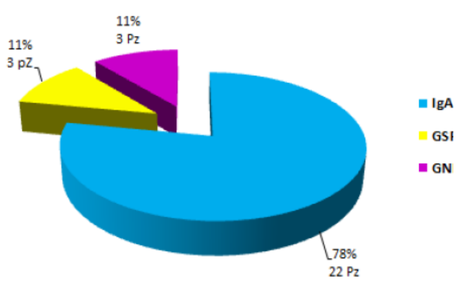
We studied 1319 renal transplant patients who had been followed at our center from 1992 to 2012. 451 patients, who presented worsening of renal function (as suggested by a 30% increase in serum creatinine), onset of urinary abnormalities, nephrotic syndrome, underwent percutaneous needle biopsy of the transplanted kidney. Demographic, clinical and histological features of the RGN were compared with a control group (n. 58 renal transplant patients who did not develop glomerulonephritis). Potential risk factors for disease recurrence were analysed.

OUR CASES

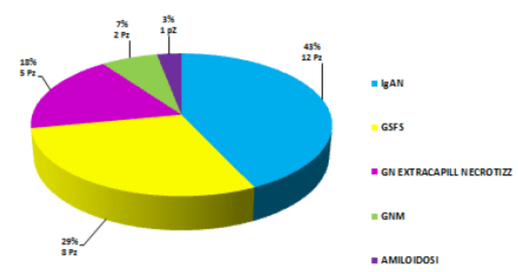
HISTOLOGICAL DIAGNOSES



RECURRENT GLOMERULONEPHRITIS



DE NOVO GLOMERULONEPHRITIS



DEMOGRAPHIC, CLINICAL AND ISTOLOGICAL CHARACTERISTICS OF RENAL TRANSPLANT RECIPIENTS WITH RGN AND CONTROLS

	RGN (N = 28)	Control (N = 58)	p- value
Age (years) at transplant, N (%)	36.571	42.448	0,0257
Sex (male/female)	20/8	51/27	0,1117
Living/deceased donors, N	11/17	10/48	0,256
Duration of dialysis, months	5.857	4.862	0,1477
Type of dialysis HD	24	50	0,9507
Type of dialysis PD	5	10	0,9436
Delayed graft function recovery	2	6	0,3673
Cyclosporine	16	51	0,3415
Tacrolimus	9	25	0,1566
Mycophenolate	16	55	0,9626
mTOR	2	3	0,7141
Azathioprine	4	6	0,9507
Acute rejection N	4	3	0,1475
Chronic allograft nephropathy	6	4	0.0066
Re- transplantation	3	6	0,9149

RESULTS

TeThe histological diagnoses were different: 156/451 (34.58%) chronic allograft nephropathy (CAN), 89/451 (19.73%) glomerulonephritis, 84/451 (18.62%) acute rejection, 78/451 (17.29%) acute tubular necrosis, 26/451 (5.76%) were normal, 11/451 (2.43%) thrombotic microangiopathy, 7/451 (1.55%) cortical necrosis.
For 39/89 (43.82%) patients of the glomerulonephritis group, primary kidney disease was unknown. The histological diagnoses in this group were: 17/39 (43.58%) IgA nephropathy, 7/39 (17.94%) FSGS, 5/39 (12.82%) necrotizing extracapillary GN, 6/39 (15.38%) MPGN.
22/89 (24.71%) of patients showed a de novo glomerulonephritis. The histological diagnoses were: 8/22 (36.4%) IgA nephropathy, 5/22 (22.7%) FSGS, 2/22 (9.1%) necrotizing extracapillary GN, 3/22 (13.63%) MGN, 1/22 (4.54%) amyloidosis.
The remaining 28/89 (31.46%) showed RGN with 22/28 (78.57%) IgA nephropathy, 3/28 (10.71%) FSGS, 3/28 (10.71%) MPGN. Interestingly, in our cohort we found a significant correlation of RGN with young age (36.6 ± SD in recurrent GN vs 42.4 ± SD in non recurrent GN (p= 0.02)) and the presence of CAN (8/28 in RGN vs 4/58 in control group (p= 0.006)). We did not find significative differences between RGN on control group for age at transplant, sex, living/deceased donors, duration of dialysis, type of dialysis if HD or PD, delayed graft function recovery, the type of immunosuppressive therapy, re- transplantation, acute rejection, chronic allograft nephropathy.

CONCLUSIONS

•Post-transplant glomerulonephritis can be *de novo* or recurrence of the original glomerular disease. In our study, we found IgA nephropathy as the most common form of RGN. For many renal transplant patients the histological diagnosis of their underlying renal disease is often not available. It is possible that the young age of the transplant patient and the development of a chronic allograft dysfunction during transplantation expose the patient to the development of a RGN.

References

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Lucia Argentiero
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