Serum Lipoprotein (a) Levels in Renal Transplantation: Role of Renal Function

Dear Sir,

In a recent issue of Nephron, Segarra et al. [1] reported a longitudinal study in which a normalization of serum levels of lipoprotein (a) (Lp(a)) and apolipoproteins (apo) CII and CIII was achieved in 30 hemodialysis patients 1 year after renal transplantation. To avoid the interference of factors which might disturb Lp(a) metabolism, they studied only nondiabetic patients with a relatively good renal function (plasma creatinine < 1.6 mg/dl (141 µmol/l)) and no proteinuria or chronic hepatic or thyroid disease who were treated only with glucocorticoids and cyclosporine A (CsA). They claimed that since the increase of Lp(a) in hemodialysis patients was due to renal failure, the amelioration of renal function after renal transplantation would entirely explain the normalization of serum Lp(a) levels.

In a previous study, we reported that, in addition to the normality of serum Lp(a) levels in a total of 165 renal transplant recipients (RTR) after 12.6 ± 5.5 years follow-up treated with prednisone, azathioprine and/or CsA, the median Lp(a) levels in 4 subgroups of RTR with different degrees of renal function were also comparable to those of control subjects (table 1) [2]. These findings were in apparent contrast to the high serum Lp(a) levels observed in severely uremic patients, requiring dialysis or not (21 and 21 mg/dl, respectively) [2]. Moreover, neither diabetes nor proteinuria or CsA treatment had an influence on Lp(a) levels in our RTR, although the CsA-treated RTR group had a significantly worse renal function than the group not receiving CsA. It is also noteworthy that in the study by Black and Wilcken [3], serum Lp(a) decreased quickly and markedly during the first week following renal transplant surgery, even though renal function had only partially recovered.

Table 1. Comparison of Lp(a) concentrations in RTR with different degrees of glomerular filtration rate (GFR)

<table>
<thead>
<tr>
<th>Healthy controls</th>
<th>RTR n = 33</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFR, ml/min</td>
<td>Lp(a) (median), mg/dl*</td>
</tr>
<tr>
<td>13</td>
<td>p = NS (ANOVA applied to ranks and Kruskal-Wallis test).</td>
</tr>
</tbody>
</table>

Dear Sir,

In a recent issue of Nephron, Segarra et al. [1] reported a longitudinal study in which a normalization of serum levels of lipoprotein (a) (Lp(a)) and apolipoproteins (apo) CII and CIII was achieved in 30 hemodialysis patients 1 year after renal transplantation. To avoid the interference of factors which might disturb Lp(a) metabolism, they studied only nondiabetic patients with a relatively good renal function (plasma creatinine < 1.6 mg/dl (141 µmol/l)) and no proteinuria or chronic hepatic or thyroid disease who were treated only with glucocorticoids and cyclosporine A (CsA). They claimed that since the increase of Lp(a) in hemodialysis patients was due to renal failure, the amelioration of renal function after renal transplantation would entirely explain the normalization of serum Lp(a) levels.

In a previous study, we reported that, in addition to the normality of serum Lp(a) levels in a total of 165 renal transplant recipients (RTR) after 12.6 ± 5.5 years follow-up treated with prednisone, azathioprine and/or CsA, the median Lp(a) levels in 4 subgroups of RTR with different degrees of renal function were also comparable to those of control subjects (table 1) [2]. These findings were in apparent contrast to the high serum Lp(a) levels observed in severely uremic patients, requiring dialysis or not (21 and 21 mg/dl, respectively) [2]. Moreover, neither diabetes nor proteinuria or CsA treatment had an influence on Lp(a) levels in our RTR, although the CsA-treated RTR group had a significantly worse renal function than the group not receiving CsA. It is also noteworthy that in the study by Black and Wilcken [3], serum Lp(a) decreased quickly and markedly during the first week following renal transplant surgery, even though renal function had only partially recovered.
Segarra et al. [1] reported also that serum apo CII and CIII decreased and returned to normal levels after renal transplantation. However, persistent high serum apo CII and/or CIII levels were found in RTR by others including ourselves, even in the setting of normal or slightly reduced renal function [4-7].

References


Taken together, we suggest that besides the normalization of renal function, transplantation-related factors may play a role in the changes of serum Lp(a) and apo CII and CIII. The role and the possible nature of these factors, such as immunosuppressive drugs, remain to be defined.