Further Evidence of Favorable Effects of Gemfibrozil on the Lipid Profile in Renal Allograft Recipients

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control group. The same diet was maintained in all cases. The characteristics of the groups are shown in table 1.

At the start of the study period, all measured values were similar in the two groups (table 2). At the end of the study there were minor changes in the lipid levels of the control group. The GF group showed significant decreases in TG (38%), TC (13%) and LDL-C levels (9%), while HDL-C was increased (12%); the final values of the GF group were also significantly lower than those of the control group with the exception of HDL-C (55 ± 10 mg/dl, 1.42 ± 0.25 mmol/l vs. 50 ±

Dear Sir,

Disturbances of lipid metabolism are frequently observed in dialysis and renal transplant patients [1]. While hypertriglyceridemia is more often encountered in hemodialysis patients, hypercholesterolemia gains preponderance after renal transplantation. Besides drugs such as corticosteroids, cyclosporin, β-blockers and diuretics, diabetes mellitus, graft dysfunction and obesity may also contribute to hyperlipidemia.

The preferred modes of treating hyperlipidemia include decreasing or withdrawing the responsible drugs and making dietary changes, but frequently these measures do not suffice [2]. Of the lipid-lowering drugs, cholestyramine has been reported to influence the metabolism of cyclosporin [3], and lovastatine has been implicated in the causation of rhabdomyolysis in cardiac transplant recipients [4]. Gemfibrozil (GF) has been reported to be an efficient drug without any serious side effects [5].

We investigated the efficacy of GF in a prospective fashion in 14 renal allograft recipients. Of 238 renal allograft recipients, 25 cases were selected for the study according to the following criteria, after a 6-month, lipid-lowering diet: graft age > 9 months; stable creatinine value < 2 mg/dl (176.8 mmol/l); triglyceride (TG) > 200 mg/dl (2.26 mmol/l), and/or total cholesterol (TC) > 220 mg/dl (5.68 mmol/l). Of these, 14 patients who had hypertension
and/or a family history of ischemic heart disease were given GF in two equal doses totalling 1,200 mg/day for 3 months; the remaining 11 constituted the

Table 1. The features of the treatment and the control groups

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<thead>
<tr>
<th>Gemfibrozil</th>
<th>Control group (n = 14)</th>
<th>Control group (n = 11)</th>
</tr>
</thead>
<tbody>
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<td>TG, mg/dl</td>
<td>15 mg/dl, 1.29 ± 0.38 mmol/l, n.s.; table 2.</td>
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<tr>
<td>TC, mg/dl</td>
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<td>HDL-C, mg/dl</td>
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<td>LDL-C, mg/dl</td>
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There were no complications such as myalgia, no increases in ALT, AST, CPK and creatinine values in any of the patients.

GF particularly reduces the TG level, diminishes VLDL synthesis, amplifies the activity of lipoprotein lipase, increases HDL-C by amplifying the synthesis of apo-A1 and -AII, which are major HDL proteins [6]. In 9 of the 11 hypertriglyceridemic patients, the TG value decreased to below 150 mg/dl (1.69 mmol/l). In 3 of 14 hyper-cholesterolemic patients, TC at the end of the treatment was below 200 mg/dl.

Table 2. The lipid values at the beginning (0) and end (3rd month) of the treatment

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* p < 0.05, ** p < 0.01, *** p < 0.0001, 0 vs. 3rd month.

It seems that GF is particularly effective in reducing the TG levels but also reduces the levels of TC.

Knight et al. [5] reported that 6-month GF treatment decreased TG levels, but did not change TC, LDL-C, and HDL-C levels. In a retrospective study conducted by Chan et al. [7], it was found that 300-600 mg GF/day caused important decreases in TG, TC and LDL-C but did not induce an important increase in HDL-C. In our prospective study, significant differences were observed in all 4 parameters, probably due to the higher dose (1,200 mg/day) used without any significant side effects. We did not observe any difference in response to treatment in patients receiving diuretics.

Hypertriglyceridemia is considered to be a risk factor in cardiovascular diseases [8], albeit not as much as hypercholesterolemia. Thus, by simultaneously improving the TG level as well as the TC, LDL-C and HDL-C levels, GF may reduce cardiovascular mortality and morbidity.

References


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