Transplant International

LETTER TO THE EDITORS

The effect of small bowel living donation on donor lipid profile

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Dear Editors,

Although living donation has been associated with excellent outcomes, ethical concerns continue to be debated. Living donation for organ transplantation requires a healthy individual undergo surgical risks without any direct health benefit. The morbidity risk can be in some cases considerable, such as in the case of adult-to-adult liver transplantation [1].

According to the latest report from the Intestinal Transplant Registry [2], living donor intestinal transplantation has been performed in less than 50 cases worldwide. More than half of the world experiences have been performed in our institution. To date, neither mortality nor major morbidity has been reported in the intestinal donors.

In the standardized technique for intestinal donation, a segment of distal ileum of 150–200 cm in length is procured for transplantation.

We reviewed the clinical records of 25 intestinal donors who underwent ileal resection at the University of Illinois Medical Center between 1998 and 2011. Six patients served as donors for combined liver and bowel transplantation to pediatric recipients. The remaining 19 patients donated for isolated bowel transplant.

The lipid profile was obtained along with the other standard preoperative laboratory tests [3].

Serum lipid panels before and after donation were compared within an IRB approved protocol for retrospective review of data.

Lipid profiles after donation were available in 11 out of our total 25 donors. This study represents a sample of about 20% of the worldwide total number of intestinal donors.

The donor mean age was 27.3 ± 6 years, three donors were males and eight donors were female. No donor received lipid-lowering medications either before or after donation.

The surgical procedures and postoperative recovery were uneventful for all 11 donors. No donor experienced late complications, such as persistent diarrhea, weight loss or disvitaminosis.

Lipid panels before and after intestinal resection were analyzed (Fig. 1). The average time span between the lipid panels before and after resection was 721 days (range: 6–1942 days). On average, the donors experienced a 36.9% reduction in LDL (predonation/postdonation mean values: 110.2/66.5, $P = 0.027$) and a 22.3% decrease in total cholesterol (predonation/post donation mean values: 174.0/134.8, $P = 0.015$). Triglycerides and HDL levels were not significantly different as well as the calculated LDL/HDL ratio (predonation/postdonation mean values: 2.85/2.08, P = NS).

The changes of lipid profile secondary to surgery and their favorable effect on overall survival and cardiovascular disease free survival were recently demonstrated by a trial with 25 years of follow-up (Program on the Surgical Control of the Hyperlipidemias) [4].

Our initial experience suggests that living donation for intestinal transplantation could achieve some changes in the lipid profile as a consequence of the ileal resection. Due to the small sample analyzed as well as the healthy status of donors, the supposed beneficial effect of these

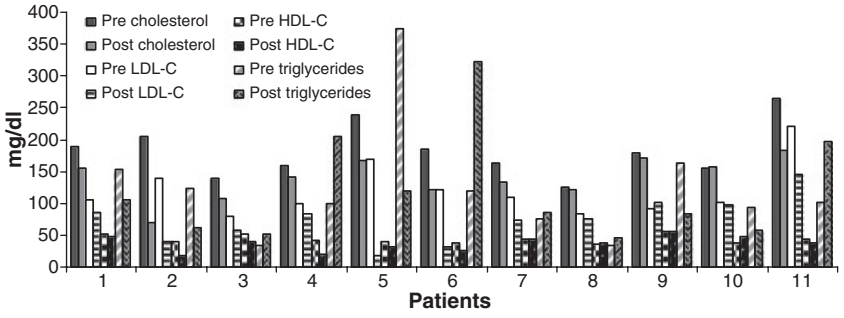

Figure 1 Pre and post bowel donation lipid profile changes.

changes is only hypothetical. This possible positive influence of donation should obviously not to be used as an argument in favor of living donation, but merely as a ''bonus'' once the decision of living donation has been taken.

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