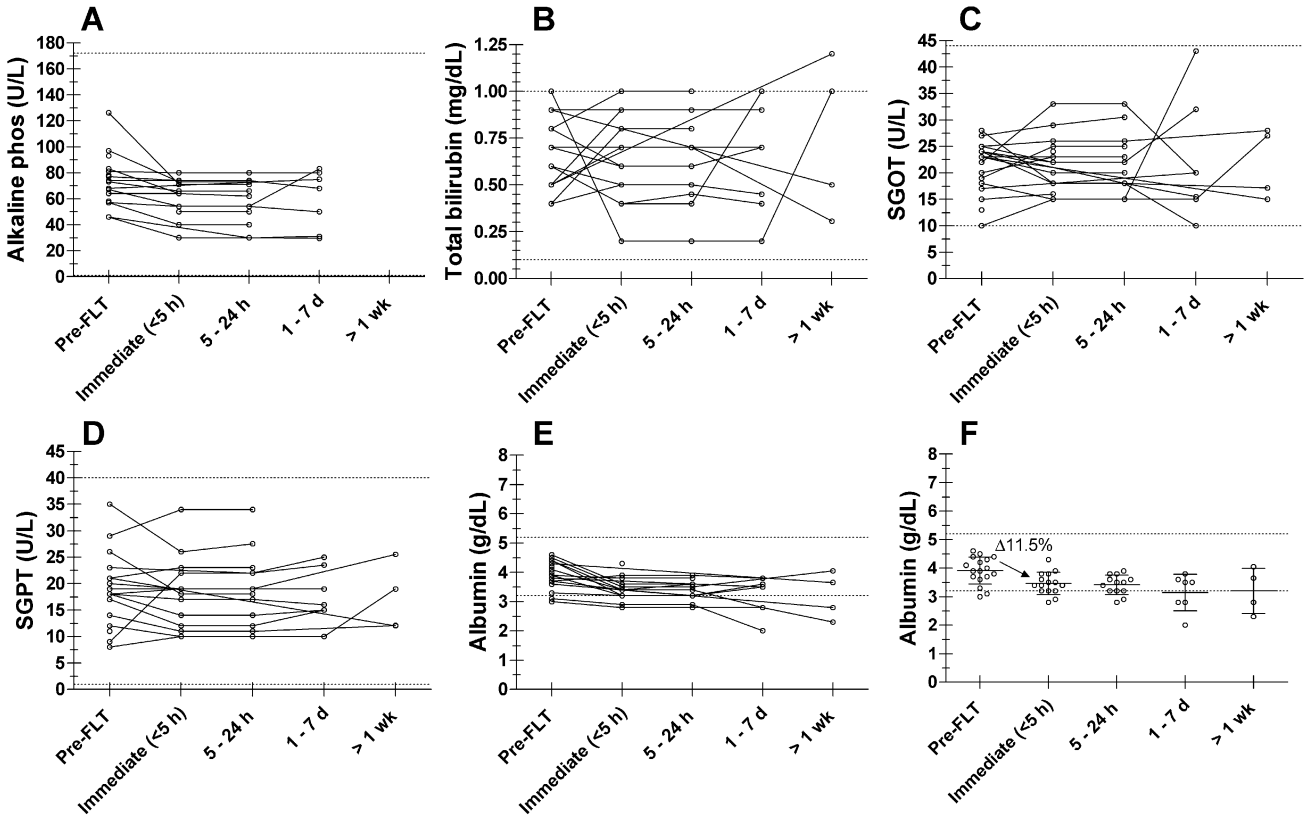

Figure 1

Hepatic function. Hepatic function: Alkaline phosphatase (A), total bilirubin (B), SGOT (C), SGPT (D), and albumin (E) levels sampled before FLT injection (Pre-FLT), up to 5 hours post-FLT (Immediate <5 h), between 5 and 24 hours (5–24 h), between day 1 and 7 (1–7 d) and later than one week (>1 wk) after FLT injection. Lines link all values for an individual patient over time. On Figure F (same data as Figure E) the mean +/- standard deviation for albumin is plotted over time. Dotted horizontal lines illustrate the upper and lower normal limits (reference range) for each test.

tocrit and RBC is probably attributable to a dilution effect since patients were hydrated with 500 cc of IV normal saline during the PET scan. Giving more credibility to the dilution hypothesis, haptoglobin measurements performed on the last 3 patients having demonstrated such a RBC decrease showed no evidence of hemolysis at the end of the ^{18}F-FLT PET imaging session. Platelet and white blood cell counts did not show any statistically significant differences over time and no immediate effect of dilution. This is likely because immediately available pools of such cells exist in the body, helping to maintain their levels despite hydration. Another important point is that the patients whose medical records contain laboratory values for times late after ^{18}F-FLT PET are those that had a more prolonged post-operative course with more severe alterations expected in their laboratory values.

Statistical testing showed that the patients' albumin level decreased slightly over time but its level remained within normal limits. However, Bonferroni post-test analysis shows that this change arises from the initial decrease (11.5%) between the pre-^{18}F-FLT PET value and the immediate post-^{18}F-FLT PET blood draw. This decrease is also likely explained by the hemodilution.

No change was observed in the results of the neurological examinations performed before and immediately after the ^{18}F-FLT PET study. Furthermore, a review of the clinical records for the 4 months following ^{18}F-FLT imaging revealed no new neurological complaints.

The second approach used to estimate the toxicity of a radiotracer dose of ^{18}F-FLT is based on a comparison of the corresponding AUC_{12} to the AUC_{12} of the lowest and least toxic therapeutic regimen (50 ng*h/mL). For a 5 mCi radiotracer dose of ^{18}F-FLT and the lowest accepted specific activity of 0.1 Ci/μmol, the imaging-derived AUC_{12} values ranged from 0.405 to 1.262 ng*h/mL with a mean